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Circumstantial social entrepreneurship: Exploring inclusive, social innovation in the transition from shadow to mainstream economic spaces – A case study of informal sector recycling activities in Bulawayo, Zimbabwe

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Abstract-open

As global solid waste management systems evolve to include wider elements of sustainability, developing countries are struggling with how best to work with a growing informal sector. This research seeks to investigate how developing country mainstream solid waste management systems can harness the opportunities presented through the informal recycling sector. This research explores the dialogue around ‘formalisation of the informal’ and ‘integration of informal recycling sector into mainstream solid waste management systems’, approaching this from an informal sector perspective. The research endeavours to offer insights to this discourse from an inclusive, social innovation approach. The research looks at what business models the informal recycling sector use as they adopt or adapt industrialised practices and how these harness inclusion and social innovation.

The research area is Bulawayo, Zimbabwe with the informal recycling sector as case study. The main research question is “How can we harness inclusion and social innovation as the informal sector transitions into mainstream economic spaces?” The research employs an inductive qualitative approach through a rapid ethnography, focus group discussions and semi-structured key informant interviews. Key concepts explored in this research include ‘circumstantial social entrepreneurship’, ‘generational informality’, ‘value chain alliances’, ‘public, private, community and informal sector partnerships (PPCIPs)’ and ‘inclusive development as a pre-requisite to formalisation’.

By unpacking the business models employed by the informal recycling sector and how inclusive, social innovation opportunities inherent in these can be harnessed during the transition from shadow to mainstream economy spaces, this research intends to offer progressive approaches on how to unlock shared value during the graduation of the informal recycling sector from shadow to mainstream socio-economic spaces. Additionally, the outputs of this research aim to contribute to context-specific knowledge on types of non-traditional social entrepreneurial activity within informal spaces and how these push boundaries of inclusive, social innovation.

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PART ONE – INTRODUCTION

1.0 Introduction

The Zimbabwean government's current focus is on mobilising multi-sectorial partnerships towards economic recovery and development in particular – promoting value addition, economic diversification, re-industrialisation and formalisation of the informal economy (“SME chamber launches biometric database”, 2016). Under this national focus, the collapse of the formal recycling industry in Zimbabwe and more particularly in Bulawayo, coupled with a growing active network of informal sector recycling (ISR) players presents an opportunity to explore possibilities of shared value creation across shadow and mainstream economy actors in order to address challenges faced within Bulawayo's solid waste management system as per global best practice standards. One such opportunity lies in the integration of informal sector recycling into mainstream solid waste management systems through progressive approaches which consider the lived experiences of these and other players within this system.

However, a limitation to informal sector development efforts has been that ‘informality’ in Zimbabwe remains largely associated with the legal status of an enterprise or economic activity (Mashiri, 2014). As a result, formalisation strategies are largely focused on legal registration, standards and tax compliance of individual entities (Mashiri, 2014). However, there is growing acknowledgement that ‘informal’ has different levels, meanings, rationales and implications in different contexts especially Zimbabwe's volatile and unique economic conditions which are notably different from other African and least developing economies (Williams & Nadin, 2012). Therefore, alternative variegated approaches to formalisation are acceptably non-negotiable (Williams & Nadin, 2012). Chen (2012) recommended that a new economic prototype is now required which merges the traditional with the modern and allows the small scale to compete with the large scale. Drawing from such progressive recommendations, this research seeks to explore context-specific models which leverage the untapped potential of the informal sector and grassroots innovations inherent within these (Gupta, 2014).

Overall, this research explores the on-going Zimbabwe national dialogue around formalisation of the informal, but more particularly the integration or transition of informal recycling sector into mainstream solid waste management systems. This research seeks to provide insights to this dialogue from an informal sector perspective using an inclusive,

social innovation approach. In harnessing an inclusive, social innovation approach this research seeks to contribute towards context-specific informal sector development approaches which recognise the informal sector as an economic prototype with possible meaningful contributions to mainstream economic models.

Inclusive innovation is positioned as an alternative model of innovation which endeavours to develop and distribute goods and services (and solutions) built around considerations of the needs, interests, capabilities and economic opportunities of the (resource) poor (Foster & Heeks, 2013). On the other hand, social innovation encompasses novel activities, ideas, models, services and solutions to social problems (James et al., 2008; Mulgan, 2006; Mulgan et al., 2007; Murray et al., 2010) and the ideal that people can design and grow new forms of social organisation under the right circumstances (Nicholls et al., 2015). The informal sector presents one such alternative form of social organisation within the market economy. By taking an inclusive, social innovation approach this research seeks to explore context-specific alternative models to facilitating a meaningful transition of the informal recycling sector into mainstream socio-economic spaces.

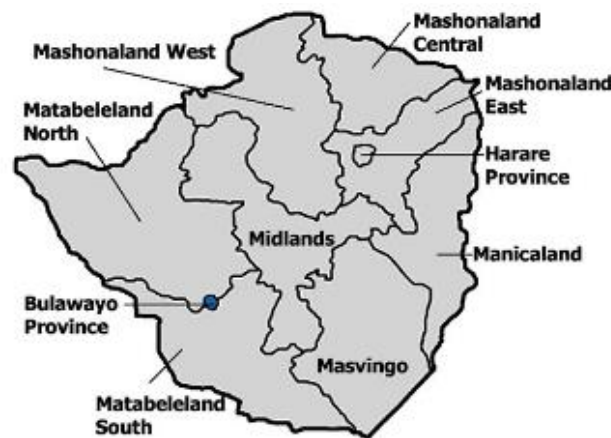
The structure of this document follows an inductive approach. The first part of the document provides a contextual background of Bulawayo in Zimbabwe, the nature of the research challenge as well as an overview of literature on the informal sector and attempts to support its development. Besides looking into literature on the informal sector particularly within the recycling industry, the literature review also looks into the relationship and progressive opportunities between inclusive, social innovation and the informal sector development dialogue. Later sections of this document review the methodology used in this research, the research findings, conclusions and future research directions stemming from key contributions of this research.

2.0 Background - The context

This section paints the context of this research by giving an overview of Zimbabwe and Bulawayo.

2.1 An overview of Zimbabwe

Figure 1 - Map of Zimbabwe outlining provinces (Source: ZimStat, 2012).



Zimbabwe (see figure 1 above for map) is a low income sub-Saharan landlocked country bordered by Zambia, Botswana, South Africa and Mozambique (*ZimStat, 2012*). The World Bank (2016) in its 2016 Doing Business report pegged the country population at 14, 599,325. Following economic regression from 1998 to an ultimate collapse in 2008, the Hanke Hyperinflation Index for Zimbabwe (HHIZ) pegged the monthly inflation rate at 79,600,000,000% and the annual inflation rate at 89.7 sextillion percent by end of 2008. This was the second highest recorded annual inflation rate in world history (Hanke, 2009). In 2009 the government introduced a multi-currency system dominated by the United States Dollar and the South African Rand (BBC, 2009). This system paved the way for the eventual introduction of six (6) other currencies as accepted legal tenders in the country leading to the total exclusion of the Zimbabwean dollar by mid-2009 (BBC, 2009).

Furthermore, a UN-OCHA report to solicit funding for food aid estimated the unemployment rate at ninety-four percent (94%) with the majority of Zimbabweans being said to be surviving on remittances from relatives and friends abroad (“Zimbabwe unemployment soars to 94%”, 2009). In contrast, the International Labour Office (ILO) pegged unemployment at five percent (5.4%) against a comparative unemployment rate for South Africa of twenty-five percent (25%) (Times Live, 2015). The unemployment rate published by the ILO was low as it factored in those economic activities in informal sectors. On 17 July 2015, a Supreme Court ruling fuelled the unemployment rate by giving employers the authority to terminate worker contracts by providing a three month notice and without liability to compensate the employee (Chitagu, 2015). Within two weeks of this ruling, a total of 18,000 workers in

formal employment lost their jobs and livelihoods as 48 private sector and parastatal firms country-wide took advantage of this bargain retrenchment rate to discharge their disproportionate labour force (Mtomba, 2015).

In 2016 the country was faced with a financial liquidity (cash) crisis as a result of i) illicit financial outflows; ii) a trade deficit; and iii) lack of a savings culture amongst Zimbabweans (Nyakwenda & Mapakame, 2016). In attempt to remedy this liquidity crisis the Reserve Bank of Zimbabwe (RBZ), through a US\$200million Africa Export-Import Bank facility, introduced and later expanded circulation of bond note currency (Nyakwenda & Mapakame, 2016). To date the Zimbabwean economy has been described as “being under intensive care” (NewsDay, 2017). According to the 2016-2018 Interim Poverty Reduction Strategy Paper (IPRSP), Zimbabwe continues to face extreme levels of structural and transient poverty (Government of Zimbabwe, 2016). Additionally, the paper states that informal employment has risen from eighty-four percent (84.2%) in 2011 to ninety-four percent (94.5%) in 2014 (Government of Zimbabwe, 2016) thereby demonstrating the increased significance of the informal sector in the country.

2.2 An overview of Bulawayo

Bulawayo (refer to figure 2 below for map) is both the metropolitan capital of Zimbabwe and the second largest city after Harare. Bulawayo Province is comprised of five (5) districts and embraces twelve (12) House of Assembly constituencies which are split across low income, high density to high income, low density residential areas. The city is managed by an Executive Mayor and a local council comprised of members elected to represent the city’s twenty-nine wards (Zimbabwe Parliament, 2011).

Figure 2 - Map of Bulawayo (Source: Radio Dialogue, 2015).



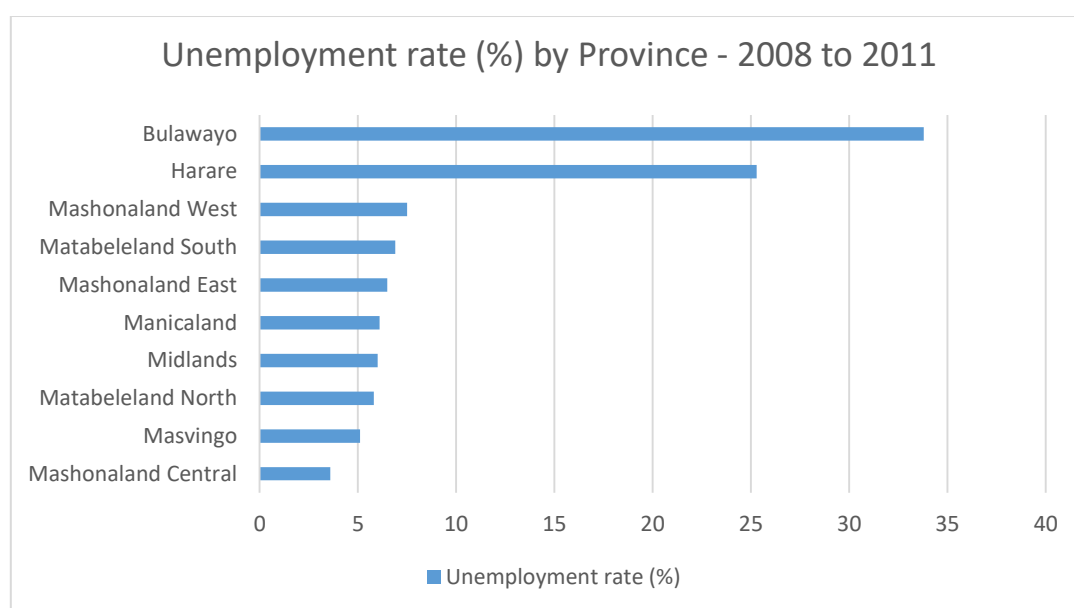
In terms of demographics, there is a lack of consensus on the overall population of the city. During the last census in 2012 the country's statistical body, ZimStat, recorded a populace of 653,337 (refer to table 1 below) – a decline from the 2002 census results of 676,000 (ZimStat, 2012). Although the decline in total population could have possibly been attributed to the emigration of citizens to greener pastures, the Bulawayo City Council rejected the national statistical figures and in 2015 conducted a household based census covering high density areas only. This focused census recorded a total population of 1,124,368 (NewsdzeZimbabwe, 2015).

Table 1 - Bulawayo population by gender (Source: ZimStat, 2012).

Male population in Bulawayo	303,346
Female population in Bulawayo	349,991
Total population	653,337

Economically, Bulawayo was established as the manufacturing hub of Zimbabwe due to its central geographic location at the epicentre of the Southern African Development Community (SADC) regional road and railway transport network connecting South Africa, Botswana and Zambia (Zimbabwe Parliament, 2011). By 2014 at 121 years old, the former industrial hub of Zimbabwe had been reduced to a ghost town (Munyaka, 2014). Munyaka (2014) wrote how by 2014 the manufacturing sector had succumbed to i) unfavourable economic policies which drove away existing and potential investors; and ii) the lack of access to 'cheap money' to finance the recapitalisation of the manufacturing sector as local banks at the time disbursed short term loans at more than twenty percent (20%) interest rates. Following the decline of the manufacturing sector in Bulawayo, Zimbabwe became a key importer of consumables - cheaper retail, fast moving consumer goods, which in turn compromised the profitability of the few surviving manufacturing firms (Munyaka, 2014).

Figure 3 - Unemployment rate percentages by province in Zimbabwe (Source: ZimStat, 2014).



As illustrated in figure three (3) above, the unemployment rate in Bulawayo from 2008 to 2011, stood at thirty-four percent (33.8%) - the highest at the time, across all provinces in the country (ZimStat, 2014). Due to the hostile economic conditions and Bulawayo's central geographic location and proximity to the South African and Botswana borders, most of the thirty-one percent (31%) of Bulawayo residents who made a living within the informal sectors engaged in cross border trade, vending, casual labour and wider forms of consumptive based entrepreneurial activities (Zimbabwe Parliament, 2011).

3.0 Background of the research problem

Following a contextual overview in previous sections, the below segment provides a holistic background of the research problem. The section paints the history of global solid waste systems, outlines global developments and perspectives on the evolution of solid waste systems, as well as Bulawayo's solid waste management system. The section concludes by outlining the nature and motivations of this research.

3.1 History of solid waste collection and disposal services

The need for solid waste removal and disposal services has probably existed since the beginning of civilisation. Although it is unclear which historical communities pioneered a solid waste collection and disposal system, a literature review as part of a study conducted by the Environmental Health Services Department (1995) in Bulawayo points to Egyptian,

Jewish and Chinese communities. The earliest established law around solid waste disposal is the Law of Moses (Environmental Health Services Department, 1995). The motivations for the development of solid waste collection and disposal services differed across communities with the main recorded motivation being religion-based and public health oriented (Environmental Health Services Department, 1995).

In terms of how ancient waste systems could have functioned, the ancient Chinese are said to have used men to collect waste in baskets hung over their shoulders (Environmental Health Services Department, 1995). Collections of waste were done at night as some waste was mixed with human waste. Besides ancient Chinese communities who reportedly transported waste on foot, some communities in later times used animal drawn carts (Environmental Health Services Department, 1995). Individual families would take responsibility for their waste disposal, however as communities grew and became more organised there was an affirmed need for more communal means and efforts of solid waste collection and disposal. The Greek and Roman communities became the first to develop systems of waste removal and disposal by waste type (Environmental Health Services Department, 1995). After a period of industrialisation which resulted in rural to urban migration and thus growing populations in urban areas, waste collection and disposal systems became more systematic and mechanised (Environmental Health Services Department, 1995).

3.2 Global solid waste management systems' evolution

Since the 1960's, models on how to design and evolve solid waste management systems with the changing times have focused much on engineering aspects around waste collection and the sometimes complex logistics involved in recycling (Tsakona, 2014). Morrissey and Browne (2004) proposed that most waste management models consider environmental (lifecycle analysis) and economic (cost-benefit analysis) aspects, but however turn a blind eye towards the social aspects. Tsakona (2014) argues that as waste systems continue to evolve, a more inclusive approach in their continual improvement must be taken up which includes considerations on social and cultural aspects (and economic environments) of waste generators.

Zurbrugg et al. (2012) acknowledged that in order to ensure success, solid waste management systems ought to include considerations on wider elements of sustainability. This reasoning can also be extended to include considerations towards players in the informal spaces of these

systems that are currently excluded from the strategic conversations around solid waste systems transformation (Tsakona, 2014). However, developing countries seem to be facing more primitive challenges in solid waste management, including i) diminishing capacities to respond to increasing waste generation trends from a burgeoning urban population with expanding consumption patterns; ii) how to leverage multi-faceted partnerships with private sector and recently the community of waste generators; and iii) how best to work with the informal sector (Wilson, Velis & Cheeseman, 2006). Wilson et al. (2006) advised that even as developing countries struggle with these primitive challenges in their efforts to evolve solid waste management systems to serve modern needs, any improvements or attempts to create new systems should not take place without considering existing systems and changing patterns within these.

To bolster the above, the findings of Ahmed and Ali (2006) in their exploration of ‘people as partners’, revealed that the integration of communities (and elaboration of the role these play) in solid waste systems increased the chances of success. Despite this progressive finding, Ahmed and Ali (2006) still seemed to propose the standard ‘add people (as passive observers) and mix’ approach in their recommendations on how the roles of different stakeholders in waste systems can be leveraged to be more inclusive. A deeper approach in exhausting the role of communities and the informal sector is crucial to ensure the sustainability, relevance and efficiency of waste collection and recycling systems. This idea is supported by the research undertaken by Sekito et al. (2013) which proved that the involvement of communities as active players, instead of passive participants in shaping the transformations of systems, increased waste collection quantities and efficiencies.

3.3 Bulawayo’s solid waste management system overview

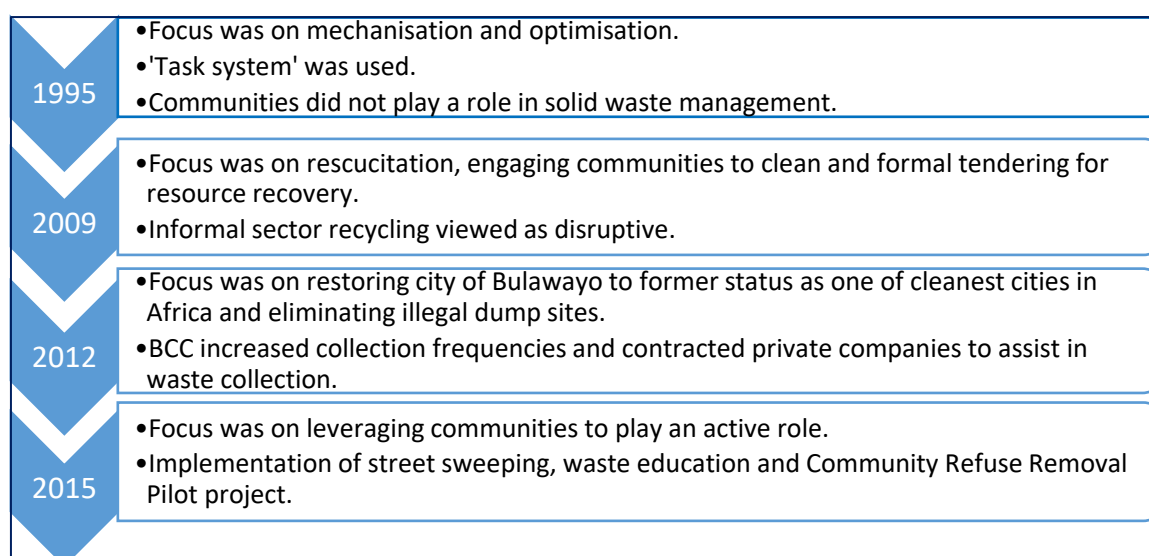
Following an overview of global solid waste management systems, this section looks into Bulawayo’s solid waste management system.

The Urban Council’s Act [Chapter 214] Third Schedule paragraph 76 charges local authorities with the responsibility of removal and disposal of domestic and commercial waste, but does not state how this responsibility must be carried out (Environmental Health Services Department, 1995). As the population size increased the cost of solid waste collection and disposal in recent years rose to levels beyond the capacity of the Bulawayo City Council (BCC). For example, between 1991 to 1995 the BCC Cleansing department’s

annual budget allocation was increased by seventy-six percent (76%) (Environmental Health Services Department, 1995).

Additionally, an Environmental Health Services Department survey (1995) classified waste generation quantities as sixty percent (60,9%) of waste generated constituting organic/soil/ash; four percent (4,5%) glass; thirteen percent (13,3%) plastic; eleven percent (11,5%) paper; three percent (3,2%) metal; two percent (1,7%) rubber; and five percent (4,9%) textile (Environmental Health Services Department, 1995). The report acknowledged that although no formal resource recovery efforts were in place at the time; this was being practiced at the disposal site albeit at very small scale (Environmental Health Services Department, 1995).

Figure 4 – Evolution of the focus on solid waste collection and disposal for Bulawayo City Council
(Source: Environmental Health Services Department, 1995; 2009; 2012; 2015).



In terms of how the city of Bulawayo solid waste collection and disposal system has evolved over the years, the above illustration (figure 4) gives an outline compiled from Council reports (Environmental Health Services Department, 1995; 2009; 2012; 2015). From an earlier concentration on mechanisation and operations efficiency in 1995, to communities playing an increasingly active role through a Community Refuse Removal pilot project in 2015, the city of Bulawayo's solid waste collection and disposal system has made great strides to remain abreast with global best practises. However, opportunities presented through the informal recycling sector have remained largely untapped.

Figure 5 - Components of the (formal) Bulawayo solid waste management system (Source: Mwanza & Phiri, 2013).

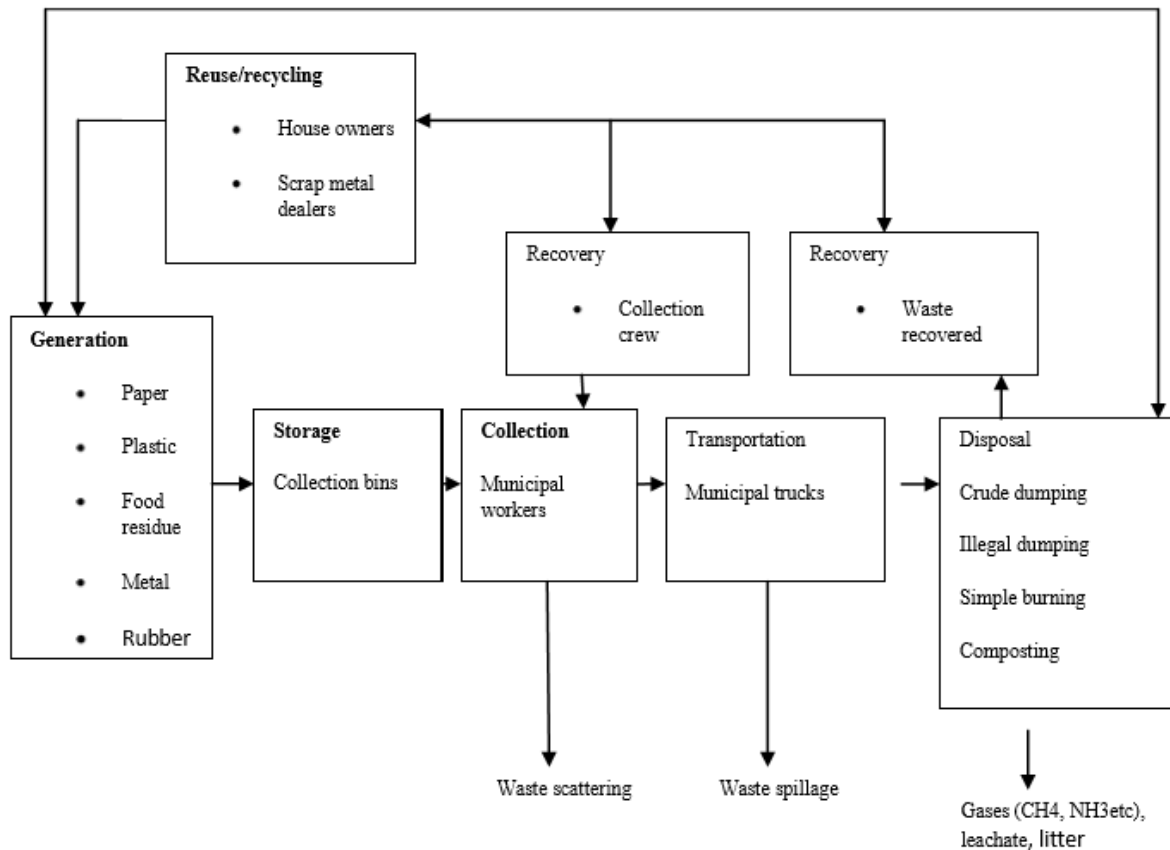


Figure five (above) is an outline of the current solid waste management system in Bulawayo. After waste is generated for instance at household level, it is stored awaiting collection. The waste collection trucks transport the waste to landfills. At times, waste generators omit the city council collection and dispose of their waste themselves through burning, dumping or composting (Mwanza & Phiri, 2013). However, since 2012 the BCC and various stakeholders including the Environmental Management Agency (EMA), have taken extensive measures to curtail the rise of illegal dump sites (Environmental Health Services Department, 2012; 2015).

3.4 Nature of the research challenge

The previous narration indicates how the current solid waste management system is disjointed from the realities and needs of the communities it is meant to cater for (Mwanza & Phiri, 2013; The Standard, 2011; Ndlovu, 2015b). The current system appears to have been established during and for a time of socio-economic stability where i) every household had a receptacle in which to store waste for collection by the municipality; ii) the municipality had

adequate financial and other resources to match waste generation capacities; iii) the only consideration was on technical and logistical arrangements in collecting and disposing of waste.

With the Zimbabwean economy in a state of volatile transition and during this process destabilising institutionalised socio-economic frameworks upon which the current solid waste management system relied upon (Ndlovu, 2015b), the existing solid waste management system no longer fits the socio-economic context nor fulfils the needs of the communities for which it was built. Furthermore, the demand for solid waste management services has outgrown the capacities of the local authority catapulting a need to explore alternative approaches to meet these needs through approaches that tap into opportunities presented by non-traditional stakeholders including the community and informal sector recycling (ISR) players.

Additionally, Zimbabwe's economic calamities have contributed to the growth in the number of informal players across various industries including recycling. The collapse of the formal recycling industry in Zimbabwe and more particularly in Bulawayo, coupled with a growing active network of informal waste collection and recycling players represents an opportunity to explore possibilities of shared value across government, formal and informal players towards multi-sectorial partnerships to address challenges faced within Bulawayo's solid waste management system and evolve the system to global sustainability standards. One such opportunity lies in the integration of informal sector recycling into mainstream solid waste management systems through progressive approaches which consider the lived experiences of these and other players within this system.

3.5 Significance of this research

Zimbabwe's economic turmoil presents opportunities for empirical innovation exploration through this research. The country's industrial sector has been experiencing a continued fall in capacity utilisation from seventy-three percent (73%) in 1998, sixty percent (60%) in 2004, to thirty-six percent (36.1%) in 2014 which has in turn impacted formal employment rates (Mureverwi, 2016). The current focus of the government of Zimbabwe has been on value addition, economic diversification, re-industrialisation and formalisation of the informal economy ("SME chamber launches biometric database", 2016). Even as the current formal industry is experiencing a downfall, there is an opportunity to explore and conceptualise

models which will leverage the untapped potential of the informal sector and grassroots innovations within these (Gupta, 2014).

This study needs to be conducted because despite this national focus, opportunities presented through the development of informal sector recycling and approaches towards its integration into mainstream economy spaces remain largely unexplored. By unpacking the models employed by the informal recycling sector and the inclusive, social innovation opportunities inherent in these, this research intends to offer progressive insights on how best to unlock shared value during the integration of informal sector recycling into mainstream or formal solid waste management systems.

4.0 Research questions and scope

Having established the nature of the research challenge, this section outlines the research questions and scope.

4.1 Research questions

The research questions are as below:

- a) What business models do informal sector players use as they adopt and/or adapt to industrialised practices in transitioning towards mainstream economic spaces?
- b) How do such business models create opportunities for inclusion and social innovation?
- c) How do informal sector players perceive concepts of ‘formal’ and ‘informal’ in relation to their work and sector?

4.2 Research scope

Informal sector recycling (ISR) itself extends across a range of activity across the recycling value chain from waste collection or resource recovery, processing to the transformation of recyclable waste into new products. For the purposes of this research, only waste harvesting and processing activities of informal sector recycling are explored. Technical aspects of solid waste management are outside the scope of this research as ISR activities within illegal, parallel value chains.

This research found three distinct groupings of ISR players in Bulawayo particularly those operating from dumpsites, those operating from the central business district (CBD) and those

operating within residential areas. The research focused largely on the network of ISR players located at the Bulawayo's landfill site - Ngozi mine, as well as two community groups based in Bulawayo's high density residential areas. Furthermore, the research targeted ISR players who dealt in the collection and processing of post-consumer and pre-consumer industrial waste in the following waste categories – plastics (HD, PP and PET) and aluminium. Liquid, non-recyclable waste streams, hazardous waste and other recyclable waste streams not elaborated above are not part of the scope of this research.

To allow for a comparative analysis and contextualisation of research findings, the research targeted formal recycling companies as well as regulatory authorities including the Bulawayo City Council (BCC), Environmental Management Agency (EMA), Ministry of Local Government, Rural and Urban Development and Ministry of Small and Medium Enterprises and Cooperative Development. The purpose of key informant interviews and informal discussions with these was to obtain a contextual image of perceptions and knowledge around informal sector recycling in relation to the focus of this research. This allowed a triangulation of formal sector and government perspectives on informal activity in the recycling industry in comparison with the captured experiences and perspectives from ISR players. The implications of this scope allowed for a more focused explorative research focusing on a specific group of players dealing in particular recyclable waste streams.

5.0 Research assumptions and ethics

Building upon the established research scope, this section outlines research assumptions as well as ethical considerations made in undertaking this research.

5.1 Research assumptions

This research was undertaken under the following assumptions:

- b) *Accessibility of research participants – time limitations.* The research in its design made assumptions regarding the availability of the targeted research participants. The initial research design intended to have the same research participants to participate in follow up focus group discussions in order to dig deeper into particular discussion points. However, due to differing work schedules of informal sector recycling (ISR) players the research found it impossible to bring the same group of people together. Instead of targeting specific individuals, the research scope was refined to target ISR players in

particular geographic areas, dealing in particular waste streams and at certain stages of the informal recycling value chain (resource recovery and processing).

- c) *Accessibility of research participants – mobility.* The Bulawayo ISR players can be categorised into three groups depending on their geographic area of operation namely; those operating from Ngozi mine, from communities or their homes and those operating from the central business district (CBD). The highly mobile nature of ISR work, in particular for players who operate within Bulawayo's CBD, made it difficult to organise focus group discussions with these. The CBD based ISR players were therefore excluded from the scope of the research. The research instead focused on informal players based in Ngozi mine and within communities.
- d) *Shared experiences.* The researcher assumed that ISR players operating in a particular geographic area such as Ngozi mine would naturally have similar shared experiences and business models. However, the researcher found that ISR player experiences and business models employed differed greatly according to waste types they were dealing in, their level in the recycling value chain and the buyers they sold to. Additionally, gender variations were found.

In response to this, the research narrowed the target group to focus on ISR players in particular stages of the value chain (resource recovery or harvesting and processing for onward sale). Additionally, the research targeted ISR players who deal in specific waste types such as plastics (PP, PET, HD) and metal (aluminium). The research made an effort to ensure the inclusion of female ISR players in focus group discussions and interviews in order to capture their perspectives.

5.2 Ethics

An Ethical Clearance application was developed and submitted for approval. The various ethical considerations which were made in undertaking this research included:

- a) No research participants were interviewed without their consent. Before interviews the researcher explained to research subjects the purpose of this scholarly research. Thereafter participants were free to ask any questions and to have these answered to their satisfaction. Following this, if research participants still wanted to continue and participate in the research they were requested to sign two consent forms for record

keeping purposes. However, due to the sensitivities surrounding the informal sector and the on-going national formalisation dialogue some research participants preferred not to sign any forms, but to still participate in the research.

Before any video filming or voice recording, consent was requested from the research participants even after they had signed the consent form.

- b) Ethical clearance in Bulawayo, Zimbabwe was obtained through individual organisations including the Bulawayo City Council and formal recycling companies.
- c) No minors (under age of 18years) were interviewed as part of this research.

PART TWO – LITERATURE REVIEW

6.0 The informal sector – An overview

This following part provides a literature review in line with the focus of this research. The literature review explores the informal sector phenomenon in general and specifically within the recycling sector. The section also includes a review of inclusive innovation and social innovation literature and the relationship with the informal sector phenomenon.

6.1 Literature history: Attempts at definition of the informal sector

Up until the 1960's activities undertaken outside the mainstream economy were given little consideration save for sociologists and anthropologists who acknowledged the existence of the informal sector (Gerxhani, 2004). Since then and with the various transitions in the global economy, the informal sector has burgeoned to become a widely recognised phenomenon persevering across entire populations (Williams & Nadin, 2012). In 1972 research undertaken by the International Labour Office (Gerxhani, 2004) was one of the earliest writings which coined the phenomenon of the 'informal sector' building upon prior emerging research elaborations by Hart (1970-1973). A comparative difference between the definitions contained in the 1972 report by the International Labour Office (ILO) and the earlier research conclusions by Hart (1970, 1973) were that Hart looked at the informal sector to explain self-employed individuals making a living outside the mainstream economy and/or supplementing earnings from the formal economy. The ILO 1972 report as referred to by Williams & Nadin (2012) presented the informal economy on the basis of tax evasion and government

regulation. Expanding on this, in 1989 writings by De Soto (Gerxhani, 2004) looked at the informal sector through a regulatory lens, where the legal status of an enterprise was used as a basis for differentiation between formal and informal sectors. As the complex nature of the informal sector made it difficult to observe and define, van Rooyen and Antonites (2007) suggested that the regulatory perspective was the simplest definition.

Beyond the aspects mentioned in the above sections, Ishengoma and Kappel (2006) defined informality in relation to factors including size of the enterprise, level of resources accessible, technology utilised and workspace. Building upon the acknowledgement of particular ownership and workforce characteristics as a defining criterion of informal sector enterprises, Chen (2012) added to these definitions by clarifying that players in the informal sector encompassed self-employed actors including informal entrepreneurs, contract workers, family workers and members of informal collective enterprises and/or cooperatives. The definition provided by Chen (2012) progressed academic conversation by helping to expand definitions around the orientation of informality to not solely focus on unregistered enterprises, but also informal employment and other economic relationships. In 1997 the ILO (van Rooyen and Antonites, 2007) provided the following framework to define the informal sector by:

- a) “*A way of doing things*” marked by non-existent or low entry barriers, sole or family proprietorship, small scale size of operations, labour intensive, low technology usage, use of informally garnered skills, unregulated activities and participation in competitive markets.
- b) *Working relationships*. Informal sector players include owners of micro-enterprises, own account workers, dependent and unpaid workers.
- c) All non-formal, unofficial, unrecorded or non-registered activities which are not illegal and do not pay applicable government tax.

Although informality was predominantly associated with activities at micro-enterprise level, Ishengoma and Kappel (2006) stated that the phenomenon applied across economic activities or operations of all size categories. Ishengoma and Kappel (2006) suggested that informality was not necessarily a parallel economic structure, as formal enterprises were also likely to adopt informal transactions when the costs of being formal outweighed the benefits.

Gurtoo and Williams (2009) stated that informal sector activities were designed to serve the competitiveness of large scale, formal operations and that the main motivation for this was predominantly economic necessity and the lack of alternative income generation opportunities. Despite this, the informal sector activities have been associated with low quality, de-grading income generation opportunities for the (resource) poor characterised by unstable, temporary employment and poor working conditions (Ishengoma and Kappel, 2006). Additionally, portrayals of the informal sector as ‘the black market’, ‘underground’ or ‘shadow economy’ were documented as having led to this exclusionist treatment of the informal sector phenomenon as something outside the boundaries of entrepreneurship (Gerxhani, 2004). The portrayal of the informal sector as inverse to idealistic representation of the entrepreneur as a ‘super-hero’ contributed to minimal exploration on universal definitions and rationales for its existence (Chen, 2012; Williams, 2006; Jones & Spicer, 2006; Williams & Nadin, 2012; Gurtoo and Williams, 2009). Literature is however starting to acknowledge that the informal sector is not always an ‘underground’ or ‘shadow’ economy, but as seen in countries including India, the informal economy can be the mainstream economy (Gurtoo and Williams, 2009).

6.2 Rationales of the informal sector

Reasons why entrepreneurs operate informally have not been empirically researched (Williams & Nadin, 2012) although various theories exist which attempt to explain their rationales (Gerxhani, 2004; Chen, 2012). A report by the International Labour Office (2014) suggests that as part of the rationales for existence, the informal sector flourishes in contexts of socio-economic challenges to address symptoms of under/unemployment, gender inequality and poverty. The report (ILO, 2014) further states that most players do not venture into the informal sector voluntarily, but are propelled into this space by a need to secure their livelihoods through income generation. However, some research asserts that entrepreneurs venture into informal sector voluntarily due to economic opportunity (Zinyengere, 2014).

Beyond research on the rationales for its existence comparative studies have led to a causal observation which suggests that the nature and dimensions of the informal sector differ significantly between developed, developing and transitioning country economies (Gerxhani, 2004). Furthermore, research by Williams & Nadin (2012) revealed that even in particular country economies the informal sector exists as a multi-layered ‘shadow economy’ with the rationale for emergence varying depending on whether the informal sector agents or

enterprises were pursuing formalisation or not and whether they were operating partially or wholly informal.

The fragmented understanding of the rationales for operating wholly or partially, permanently or temporarily in the informal economy is one of the main impediments in coming up with a practical solutions as to how the integration of the informal sector could be facilitated and/or modelled. Williams and Nadin's (2012) contribution to academic conversation on facilitating the transition of informal into mainstream economy spaces has however facilitated a progression towards an acknowledgement that informal entrepreneurs' rationales were not universal, and that the interventions to facilitate the formalisation of these should also take a variegated approach instead of a 'one-size-for-all'.

6.3 Defining the 'informal entrepreneur' and categories of 'informal'

The informal entrepreneur is one of the key players within informal systems, including self-employed contract workers, members of collective enterprises and/or cooperatives (Gurtoo & Williams, 2009; Chen, 2012). According to the definition provided by Williams and Nadin (2012), informal entrepreneurship is "a term encompassing those who start/own/manage a business which involves monetary transactions not declared to the state for tax and/or benefit purposes when by law they are meant to be declared, but which are legal in other aspects". This definition is in line with emerging literature on the characteristics of entrepreneurship in the informal economy as presented by Gerxhani (2004) and differentiates informal entrepreneurship from criminal entrepreneurship, business pursuing illegal economic activities and unpaid community work (Williams & Nadin, 2012; Williams, 2004; Gurtoo and Williams, 2009).

In terms of classification of informal entrepreneurs, Ishengoma and Kappel (2006) suggest three broad categories. The first category covers 'business oriented informal entrepreneurs' whose economic pursuits are characterised by relatively high informal income, educated or skilled workers and working relationships with the formal sector. The second category includes 'subsistence based informal entrepreneurs' whose activities are motivated by 'a need to survive'. The final category is suggested as a transitional one which is in-between 'business oriented' and 'subsistence based' informal entrepreneurs.

Further to the characterisation of the informal sector provided in the previous section of this review, Williams & Nadin (2012) aggregated informal entrepreneurs into four categories as below:

- a) *Permanently wholly informal entrepreneurs* – entrepreneurs who operate business in the informal sector with no foreseeable intention to formalise their operations;
- b) *Temporarily wholly informal entrepreneurs* – entrepreneurs who operate business in the informal sector but have an intention to formalise their operations;
- c) *Permanent partially informal entrepreneurs* – entrepreneurs operating registered businesses and meeting regulatory requirements but who do not declare their income with the intention of increasing what they declare;
- d) *Temporary partially informal entrepreneurs* – those operating informal businesses that do not declare part of their income but are in a process of formalising their operations.

6.4 The interplay between the informal and formal sectors

Before exploring literature on integrating the informal into the mainstream economy spaces, this research found it important to first review existing knowledge on the relationship and interplay between informal and formal sector. As such, the below schools of thought explain the linkages between the informal and formal sector (Carr and Chen, 2001):

- a) *The 'Dualist school of thought'*. This school of thought describes the informal sector as a source of income for the poor and a parallel sector which exists without transactions with the formal sector. This ideology asserts that the informal sector exists because growth and development of the formal economy has not yet reached a level where the formal economy can absorb those in the informal economy. The dualist school of thought asserts that there are minimal to no power relations between the formal and informal.
- b) *The 'Structuralist school of thought'*. This school of thought believes that the informal sector exists to serve the formal economy players to achieve economies of scale and increase industry competitiveness. The structuralists believe that the formal sector exercises greater power over the informal sector in favour of the formal sector's interests.
- c) *The 'Legalist school of thought'*. This school of thought focuses predominantly on the unregulated aspects of the majority of informal sector players. The legalists believe that the unregulated nature of most informal sector players is a rational reaction to complex regulation and bureaucratic government procedures. Legalists believe that the motive for

informal existence is to reduce costs and increase competitiveness and that informal sector players exercise their power or choice to serve their interests.

Dismissing the dualist school of thought, Chen (2012) highlighted that a dominant number of transactions within the informal sector involve interplay with the formal sector. Chen (2012) provided the below categorisation of the business linkages between formal and informal sector actors:

- a) *Individual transactions*. This category describes open market, individual transactions between the formal businesses and informal sector actors. The dominant actor in these linkages in terms of power dynamics and market knowledge is the formal business, which exerts its power to influence the transaction or terms of exchange.
- b) *Intricate sub-sector networks*. This category describes networks formed by informal entrepreneurs, contract/casual labourers, through which these informal actors transact with formal business. In these arrangements individual actors engage with formal business on a string of transactions, the terms and conditions of which are determined by formal business as in the previous category. The rules within the particular sub-sector are ironically influenced by dominant informal actors in these networks. The observation by Chen (2012) suggests that similar power dynamics observed between formal and informal sector players also exist in relationships amongst informal sector actors.
- c) *Value chains*. This category explains business linkages between formal business and informal actors within a particular value chain. Here transactions with the informal actors are influenced by a large scale business, most likely the contracting firm. Informal players in this category would therefore have contractual terms dictated to them.

The above categorisation of transactions by informal actors and formal businesses illustrates the minimal bargaining power the informal sector has to influence terms and conditions of the transactions they conduct with formal business. In possible remedy to this Dhemba (1999) and Gerxhani (2004) recommended that informal actors, individual actors and collectives within sub-sectors and value chains should form associations where their collective voice could be utilised to influence terms and conditions of business. However, Grosh & Somolekae (1996) stated that although informal actors could gain short-term gains, systemic

change (Bonnicci & Jowell, 2016) was more attainable through interventions aimed directly at policy level instead of at enterprise level.

6.5 Integrating the informal sector into the mainstream economy

Academic literature on the informal sector has moved to acknowledge the increasing significance and importance of the informal sector to the mainstream economy (Gerxhani, 2004) and that business relationships exist between the two even prior to their aggregation and integration (Chen, 2012).

Williams and Nadin (2012) reflected on how more than half of the global population of three billion in 2012 were employed in the informal sector with the majority engaged on a self-employment basis. In sub-saharan Africa seventy percent (70%) of informal workers were engaged on a self-employment basis which according to Chen (2012) is a central part of the informal sector. Furthermore, 2014 statistical indications from the Zimbabwe National Statistics Agency (ZimStats) revealed that out of the 6.3million employed population, ninety-five percent (94.5%) were employed within the informal sector up from eighty-four percent (84%) in 2011. This segment explores literature on how the informal sector could be integrated into the mainstream economy.

6.5.1 Rationale for integration of the informal sector to the mainstream economy

Before exploring how the informal sector can be integrated into mainstream economic spaces, it is imperative to understand why this integration is necessary. If the rationales (Williams, 2004; Williams and Nadin, 2012; Gerxhani, 2004; and Chen, 2012) for the existence of the informal sector outside of the formal or mainstream economy are valid then it is important to understand why the informal sector needs to be supported to play an active role in mainstream economic spaces.

Ishengoma and Kappel (2006) acknowledge that the informal sector plays a critical role of providing employment and satisfying needs of markets un-served by the formal sector. However, the informal sector functions under conditions which trap its players in poverty. Additionally, the development of the informal sector is deterred by the following challenges (Ishengoma and Kappel, 2006):

- a) *Internal elements.* Factors such as a limited human resources and working capital, poor and unstable workspace location and conditions as well as out-dated technology or lack

thereof, pose a challenge to the industrialised growth of informal sector players. Amongst the internal elements which restrict the growth of the informal sector is that at times, informal sector players avoid profitable expansion in order to remain outside the radar of government and regulatory authorities.

- b) *External elements* including restricted access to markets, business support services (such as training, advisory services) as well as a complex regulatory environment pose challenges and restrict the growth of informal sector players. Furthermore, penalties, corruption and perpetual harassment from law enforcement authorities are other external elements which deter the growth of the informal sector.
- c) *Market factors*. The low entry barriers which characterise opportunities in low income markets make it a preferred target market for informal sector players. However, players in low income markets predominantly target the same customers and produce similar products. This limits their profitability and growth.
- d) *Inter-firm elements*. These include exploitative business linkages, limited opportunities for vertical linkages, limited networking opportunities as well as weak informal sectorial associations. Some of the business linkages require some level of formality. In all these various inter-firm relationship scenarios the informal sector visibly benefits the least and has limited power and influence to define and stimulate its growth.

6.5.2 Approaches to tackling the informal sector

The graduation of informal micro-enterprises to formal levels is anticipated to lead to a more inclusive contribution to economic growth and development (“Government crusades to formalise SMEs”, 2016). According to the International Labour Office (2007) formalisation is loosely defined as the journey an enterprise takes from being informal to formal (“Government crusades to formalise SMEs”, 2016). In the midst of the ‘formalisation’ debate is whether and how the informal sector can be engaged or tackled. In terms of integrating the informal sector into the mainstream economy four options have been elaborated (Williams & Nadin, 2012), namely:

- a) *Laissez-faire or doing nothing*. This option leaves the negative effects of the informal sector including unfair competition to formal business and limiting the growth of this sector.

- b) *Eradication*. This option suppresses entrepreneurial culture for which governments are supposed to encourage and provide a favourable environment.
- c) *De-regulation*. This results in the reduction of critical standards instead of focusing on supporting and building the capacity of micro-enterprises to meet these standards. This may also lead to non-tariff trade barriers higher up the value chain as enterprises fail to access particular markets due to unmet standards.
- d) *Facilitating formalisation*. This solution encompasses efforts to facilitate the transition of actors and enterprises from informal spaces to formal, mainstream economy.

Despite the various suggested approaches to deal with the informal sector, an impediment to the progression of these has been the lack of context-specific understanding on informal entrepreneurs' reasons for operating in the informal sector. Out of the approaches listed above, facilitating in some way the transition of the informal sector into mainstream economic spaces is the universally preferred approach. However, the multi-faceted existence of the sector subdivided by their formalisation intentions greatly complicates recommendations as to how the formalisation of the informal sector can occur (Williams & Nadin, 2012; Charmes, 2009; ILO, 2002; Jutting and Laiglesia, 2009; Schneider, 2008; Williams, 2006). This establishes the need for context-specific research.

6.5.3 Creating a conducive environment in the transition from informal to formal

Further to the discussions in the previous sections of this document, Dhumba (1999) recommended the below to support the successful transition of the informal sector into the formal:

- a) *Promotion of private, public partnerships (PPPs) towards formalisation*. Dhumba (1999) highlighted that facilitating formalisation and alleviating poverty should not be the sole obligation of governments. Through private-public partnerships, non-governmental organisations and other players could support government efforts to facilitate the positive development of the informal sector and its contribution to the mainstream economy.
- b) *Informal sector development regulation and legislation*. Dhumba (1999) proposed that government should craft policies which support the development of the informal sector.

- c) *Allocation of strategic location work sites and premises.* This solution is built upon the premise that informal sector players and enterprises most often do not have secured operational spaces as observed by Chen (2012).
- d) *Access to finance and training opportunities.* Dhumba (1999) explained that although informal sector operations required less funding than formal enterprise, access to affordable finance in terms which are suitable for the income earning patterns of informal actors was critical.
- e) *Establishment of associations and informal sector insurance fund.* Dhumba (1999) recommended that informal actors form associations and through these associations develop an insurance fund to provide collateral for any loans taken up from financial institutions.
- f) *Comprehensive and holistic policy approaches.* The policy framework options recommended by Chen (2012) focus on – creating more formal jobs; registering and increasing regulation of informal enterprises; extending social and legal protection to actors within informal sectors; and increasing productivity and incomes of informal sector players through creating economic policies which are supportive to informal activity.

Although progressive to academic dialogue, the above recommendations do not wholesomely address existing perceptions of informal actors as powerless economic agents who need to be saved. The multi-stakeholder partnerships proposed by Dhumba (1999) have become outdated and inadequate to complete the task at hand – that is, to harness the subliminal power (resilience, innovation, agility) of informal actors, sub-systems and networks and successfully facilitate their transition into mainstream economy spaces.

6.5.4 Re-thinking formalisation: The informal sector as an incubator for industrial evolution

An alternative ideology to the formalisation debate has been academic conversation as to how the informal sector can act as an incubator which nurtures entrepreneurship amongst the resource poor. An early World Bank (1999) report pointed out the informal sector's potential to contribute significantly to long-term economic development and growth by cultivating a seedbed of experienced entrepreneurs who will start, develop informal micro-enterprises into

medium to large scale, dynamic future enterprises which are responsive to evolving socio-economic and political conditions (Grosh & Somolekae, 1996). This ideology albeit utopian-world ambitious, could help African economies to shift towards inclusive sustainable development through an industrial sector which would be increasingly dominated by medium to large scale locally owned and/or responsive and/or relevant firms – the ‘missing middle’ (World Bank, 1999).

Grosh & Somolekae (1996) proposed two strategies as to how the informal sector could assume this role:

- a) *Facilitating the graduation from informal micro-enterprise level to medium and large scale.* However, various challenges act as an impediment to this including low experience, literacy and education levels, limited access to inclusive financial services which limit expansion financing to retained earnings. Furthermore, formalisation presents new challenges such as tax management, import and export formalities, payrolls, and diseconomies of scale where the business is only profitable at a small-scale. Informal enterprises might not be capable of independently addressing these challenges.

The Botswana Enterprise Development Unit (BEDU) provided a context-specific example and experience on facilitating the graduation from informal micro-enterprise level through an incubation facility. This incubation facility provided industrial spaces in which micro-enterprises could operate from for up to five (5) years with the aim that after this time they would develop into medium, formal enterprises. Disappointingly only a low number of micro-enterprises graduated from this incubation programme (Chinyoka, 1991). This shows that the nature of developmental support required within the informal sector is complex.

- b) *Cross-generational savings by micro-enterprises.* This recommendation follows research which indicated that micro-enterprises in less developed economies are heavily reliant on retained savings to start new business. In Zimbabwe for example, seventy-three percent (73%) of start-ups were reportedly financed by entrepreneurs’ savings (Hoogeveen & Tekere, 1994).

Grosh & Somolekae (1996) proposed that savings of micro-enterprises could be used to facilitate the intergenerational graduation from micro to medium and large scale enterprises. Grosh & Somolekae (1996) suggest that where a graduation to formal

medium to large scale level is not possible in the lifetime of current informal entrepreneurs, the accumulated savings from these could help springboard future entrepreneurial ventures of their children who due to the improving socio-economic status of their parents are more likely to be better educated and therefore better equipped to manage the transition from informal to mainstream economic spaces. However, this idea raises more questions than answers; particularly – how would the voices and needs of future generations be captured? Furthermore, how can we document and transfer the tacit knowledge and experiences of current informal entrepreneurs in ways that make it relevant to future generation entrepreneurs and beneficiaries?

Another option to re-thinking formalisation is proposed by Ishengoma and Kappel (2006) as the promotion of informal to formal sector, forward and multi-lateral linkages. In this working arrangement informal sector players would participate in bilateral, vertical linkages with the formal sector. Ishengoma and Kappel (2006) suggest that this can be done by eliminating middlemen who contribute no value and by so doing increasing the number of direct transactional relationships between formal suppliers and buyers and informal sector players. The creation of associations which represent the needs and interests of informal sector players is another strategy through which power relationships can be managed in these multi-lateral business linkage relationships.

7.0 Zimbabwe's informal sector

A 2015 study conducted by the Bankers Association of Zimbabwe (BAZ) and the Zimbabwe Economic and Policy Analysis Research Unit (ZEPARU) concluded that although individual informal sector players have limited resources, when aggregated the informal sector as a whole has the potential to become an impressive reservoir of resources (Sanderson, 2016). 'Informality' in Zimbabwe is largely associated with the legal registration status of enterprises and economic generation activity (Mashiri, 2014). The 2014 Labour Force Survey defines informal sector activity in Zimbabwe according to:

- a) The registration status of the enterprise;
- b) The characteristics of work conducted by different players. Informal sector activity includes own account workers, owners of informal enterprises, unpaid labour in both formal and informal enterprises, members of informal cooperatives and paid workers of formal enterprises who are not entitled to formal employment benefits.

The Zimbabwean Small and Medium Enterprises Act [Chapter 24:12] defines micro, small and medium enterprises through the below criteria (Ministry of SMECD, 2015):

- a) Independent economic units which are not a subsidiary of larger organisations;
- b) The number of permanent workers. With the maximum number of workers at micro-enterprise level stated at 5 people.
- c) Capitalisation of the economic unit;
- d) Turnover. The maximum turnover for micro-enterprises is stated between US\$30,000 to US\$50,000 depending on sector;
- e) By economic sector; and registration status of the economic unit.

7.1 Characterisation of informal sector activity in Zimbabwe

A study conducted by Brand (1986) associated informal sector activity in the capital city of Zimbabwe, Harare, with the below characteristics:

- a) Motivation for entry was linked with termination of formal employment.
- b) Length of experience in current informal activity amongst informal sector players varied extensively from one (1) day to fifty (50) years.
- c) Informal sector player skills development occurred outside a formal education system. Social relationships were a primary source of learning and skills development. Informal communication channels played a key role in facilitating this.
- d) Informal sector activity was largely conducted on pavements with informal producers of similar services and/or products grouped in one area.
- e) Informal sector activity was predominantly small scale in nature and utilised an individualistic mode of operation and ownership. A majority of informal sector players worked alone. Informal sector players associated their preference of this mode of operation and ownership with conflict avoidance, greater financial reward from their work and freedom to make decisions which favoured one's individual interest versus pressure to compromise in group working situations.
- f) The nature of joint or cooperative activity amongst informal sector players ranged from raw material purchasing arrangements where the purchase was sometimes carried out in pairs or by a group of players who would have pooled their individual resources together. Seventy-nine percent (78.8%), of informal sector players interviewed as part of the study

stated they did not know of any cooperative models of informal sector activity. This could be linked to preferences of individual operation and ownership arrangements making cooperative models less popular.

- g) Transactions between informal and formal sectors existed especially in the acquisition of raw materials and sale of end products or services.
- h) The informal sector mode of operation was said to appear unstructured. However, a deeper analysis revealed a sophisticated level of informal structure and organisation. A majority of informal players adhered to a work time table with specific start and end times.
- i) For players in the informal sector their work and personal responsibilities were inseparable.

Finally, according to a Labour Force Survey (2014) forty percent (40%) of informal sector players received their payments in cash. This high cash volume oriented nature of informal sector transactions coupled with the on-going cash crisis being experienced in Zimbabwe in recent years has led to the rise of a parallel informal financial market which went unbanked. This added to the Zimbabwe government's motivation to formalise the informal sector. In this manner, the scope and focus of 'formalisation' strategies in Zimbabwe has extended beyond a legal registration status to include strategies to harmonise parallel and formal market sectors as well as financial systems.

7.2 Integration of the Zimbabwe informal sector into mainstream economic spaces

In recognition of the revenue potential of the informal sector in the country, the government is working with private sector to formalise the informal sector amongst other means, through:

- a) Enforcing a variegated taxation system upon these (Times Live, 2015).
- b) Mapping existing informal players, micro small and medium enterprises onto a national a biometric database meant to complement existing database developed by the World Bank and the Ministry of Small and Medium Enterprises and Cooperative Development in 2012 which recorded 10,000 micro, small and medium enterprises (Chronicle, 2016).
- c) Development of a national formalisation strategy by the Ministry of Small and Medium Enterprises and Cooperative Development meant to ensure the participation and

contribution of the informal sector to the mainstream economy (“SMEs body launches biometric database system”, 2016).

With no significant advocacy efforts on their behalf to propose how they can take place, the informal sector players have minimal influence on policy dialogue (Times Live, 2015).

8.0 Informal sector recycling (ISR)

Ezeah et al. (2013) suggest that formal solid waste collection systems only harness thirty to seventy percent (30% - 70%) of urban generated waste with the rest disposed of by waste generators through informal means including dumping and littering. Additionally, in informal systems a network of waste pickers commonly referred to as scavengers, harvest recyclable waste as a means of income generation. The old adage *one man's trash is another man's treasure* holds true to intricate networks of informal waste harvesters and processors who view what society perceives as waste to instead be a post-consumptive resource with income generation value.

Despite its potential benefit to the environment, economy, government, private sector and the community; perceptions around informal sector recycling (ISR) activity are largely demeaning and negative. In line with findings of literature (Morrissey & Browne, 2004; Medina, 2008), Sembiring and Nitivattananon (2010) wrote how ISR was often linked to unemployment, illegal activities, unhygienic environments, homelessness, poverty. Such associations often led to exclusionary policies and discrimination. Medina (2008) wrote that a majority of ISR players were sometimes rejected by society and belonged to vulnerable groups including unemployed, migrants, women, persons with disabilities, children and the elderly.

Literature around the motivations of ISR players is congruent with that of rationales for informal sector players in that the dominant motivation was economic (Morrissey & Browne, 2004; Medina, 2008; Sembiring & Nitivattananon, 2010). However, a continuous inference towards *a need to survive*, points to social aims beyond traditional economic incentives of survival.

As developing country governments and private sector continue to struggle with how best to respond to a growing informal recycling sector, Wilson et al. (2009) affirmed the potential for win-win collaborations between the formal and informal sector. In a progressive research

Ezeah et al. (2013) recommended that ISR be integrated into formal solid waste management systems and that for this to be possible there is a need for “social acceptance, political will, mobilisation of cooperatives, partnerships with private sector, management and technical skills (development), and legal protection measures.”

Sembiring and Nitivattananon (2010) and Medina (2008) acknowledge that there were negative aspects of ISR, and that an increased efficiency in particular aspects of formal solid waste management systems could result in loss of livelihoods for informal waste harvesters and processors. For example, an improved efficiency in solid waste disposal could cut off supply for informal waste pickers who rummage through waste bins at community level. This therefore demonstrated that in the evolution and/or improvement of solid waste systems no changes should be made without considerations on current formal and informal components and the complex relationships between these.

8.1 Integrating ISR in formal solid waste management systems

Medina (2008) wrote that if supported waste picking could stimulate resource poor people-led grassroot investments including employment creation, poverty reduction, improved industrial competitiveness, environmental stewardship and reduces municipal costs. By self-organising or receiving support towards this, informal sector recycling (ISR) players could gain access to the following tangible benefits (Medina, 2008):

- a) Improved financial return, stability and legalisation of their activities.
- b) Improved financial return from by-passing middlemen and/or taking up opportunities to tap into value addition opportunities higher up the recycling value chain.
- c) They could take up contracting opportunities with industry and government as well as funding opportunities provided by the donor community.
- d) They could enter informal and formal working arrangements to either supply private sector with recyclable waste and/or to set up source-separation recycling programmes with community groups.

The following intangible benefits would also be availed to ISR players following their self or facilitated organisation (Medina, 2008):

- a) A strengthened bargaining position with industry and government.

- b) They would be able to play an active role in the mainstream development process.
- c) Improved decent working conditions coupled with legal recognition of their work. This would help to boost the image of their work as well as their self-esteem.

In order to transition into mainstream or formal solid waste management spaces Medina (2008) suggests that ISR players must first organise themselves or receive support towards this. It would appear from this that the organic models ISR players used are not suitable or efficient to allow a successful transition. This organisation is identified by literature as an avenue through which ISR players can breakthrough power dynamics at play between formal and informal solid waste management players (Medina, 2008). The organisation and gradual formalisation of ‘catadores’ in particular has had the following positive impacts on ISR activity in Brazil (Trade Compass, 2016; Morrissey & Browne, 2004):

- a) Waste picking is now a legally recognised profession;
- b) Waste pickers now advise government on environmental matters;
- c) The cooperative collects 100tonnes of recyclables every month equal to half what the entire city program collects;
- d) Through the cooperative waste pickers can sell directly to industry;
- e) Waste pickers now earn more than twice the national minimum wage and receive health benefits;
- f) They now have access to infrastructure for value addition and work spaces from which to operate from.

8.2 Models used to transition ISR into mainstream solid waste management systems

Elaborating on the previous section’s recommendation to organise informal sector recycling (ISR) players, this section looks at models used to transition ISR players into mainstream socio-economic spaces – namely, microenterprises, cooperatives and public-private partnerships. These are discussed below (Morrissey & Browne, 2004):

- a) *Micro-enterprise*. In this model microenterprises led by entrepreneurial individuals in many developing countries fill the municipal waste collection gaps by collecting refuse in communities which lack municipal waste collection services. These micro-enterprises which are not fully formalised and operate informally make minimal infrastructure and

resource investments to facilitate their work including acquiring donkey/horse-drawn carts and trucks to transport the collected waste.

- b) *Cooperatives*. These cooperatives, a model most common in Latin America, are membership based but also have supply arrangements with individual waste pickers who are not members. A progressive example is the ‘catadores model’ which was one of the first formalised ISR groups in Brazil (Trade Compass, 2016). Through such models Medina (2008) stated that ISR activity stood a chance to have access to greater opportunities for improved livelihoods and greater value transactions in mainstream economic spaces.
- c) *Public-private partnerships*. These are partnerships between waste picker groups or associations and the government. In these working arrangements the municipality would support the waste picker groups by availing basic infrastructure and/or transport while the waste picker groups provide labour.

9.0 Inclusive innovation, social innovation and the informal sector

The following section explores literature on inclusive, social innovation and the link with the informal sector.

9.1 Inclusive innovation

Gupta (2013) wrote that the need to achieve a socially inclusive form of development was no longer a nice thing to do, but has in recent years become a crucial consideration. In earlier writings, Klein (2012) supported this observation by noting that the need to obtain and maintain a social license to operate had become an imperative concern in both business and development sectors. Despite this, considerations around a social license to operate continued to predominantly focus on corporate social responsibility within the mining sector (Yates and Horvath, 2013). However, in 2016 the events of civil unrest and demonstrations against hostile economic policies, deteriorating formal sector working conditions and massive job losses experienced in Zimbabwe (“Economy could spark unrest”, 2016) proved that the subjective concept of a social license to operate also applied to the socio-economic development agenda. These events provided a real life example that in order to obtain and maintain a social license to operate, governments, private sector, development partners and other mainstream actors must ensure that their efforts to address or meet the needs of

marginalised groupings are harmonised with the expectations and needs of these population groups.

Inclusive innovation is an alternative model of innovation which endeavours to develop and distribute goods and services (and solutions) built around considerations of the needs, interests, capabilities and economic opportunities of the (resource) poor (Foster & Heeks, 2013). Through their development and delivery, inclusive innovation goods and services seek to expand or accelerate the development and growth of the lowest income populations (Klapinsky, 2011). Inclusive innovation therefore actively pursues the purposeful inclusion of the previously marginalised in the mainstream of development (Foster & Heeks, 2013).

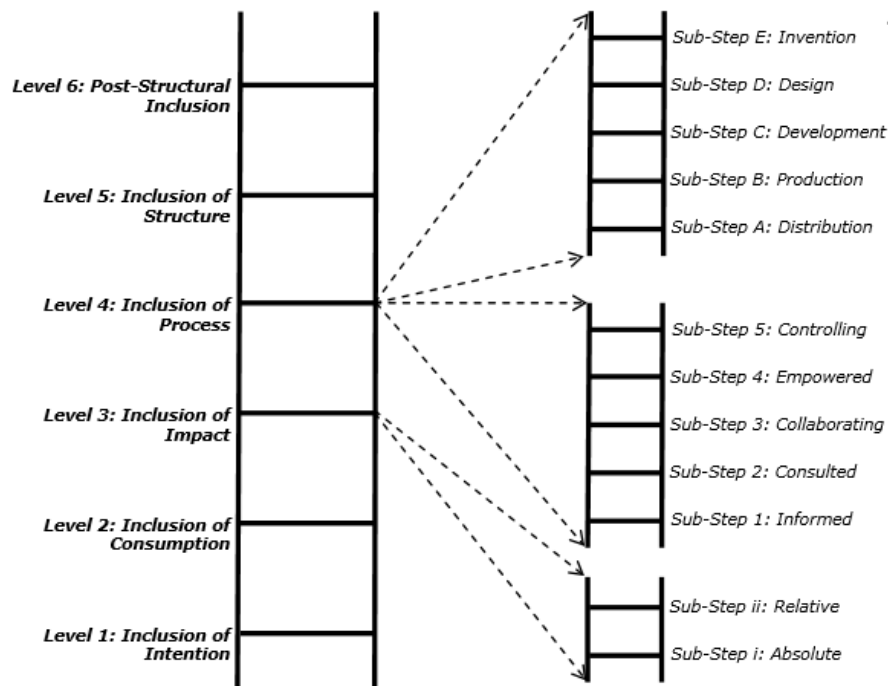
However thus far, these definitions limit inclusive innovation to being solely meant to benefit marginalised groups (George et al., 2012). In remedy to this Heeks et al. (2013) further elaborated inclusive innovation as the channel through which those previously excluded, principally the populace living on the lowest incomes, contribute to and benefit from the development of goods and services (and solutions). George et al. (2012) indicated that inclusive innovation is both a means to an end and an end in itself. This therefore suggested that not only should the process of inclusive innovation be sensitive to the potential inequalities that may be created during the development and commercialisation of the innovation, but the end itself should be conscious of any inequalities which may arise as a result of value creation and capture (George et al., 2012).

In the definition of inclusive innovation Codagnone (2009) and Heeks et al. (2013) prompt a specification as to which group of people is targeted (to benefit and/or contribute) and which phase or dimension of the inclusive innovation they must be included in. In terms of who these previously marginalised groupings of people include, prior research has mainly identified and categorised these demographically and by their socially ascribed roles (Codagnone, 2009). Heeks et al. (2013) expanded this criterion to include their socio-economic status for example, those at the base of the pyramid who survive on the lowest daily incomes. However, in his definition of inclusive innovation George et al. (2012) argues that the 'who' of inclusive innovation is non-conclusive, but evolves throughout the processes of development of the inclusive innovation as the process itself is capable of creating new pockets of inequality.

Through their research, Heeks et al. (2013) made an observation that as existing potential inclusive innovation initiatives and market systems worked towards including marginalised

groupings in their activities, progress in these resulted in structural and organisational innovation such as intermediary organisations sprouting to bridge the gap between mainstream players and marginalised groupings. This was however highlighted as a traditional approach to inclusive innovation under ‘level four (4), sub-step two (2)’ of the levels of inclusive innovation (see figure six below).

Figure 6 - The Levels of Inclusive Innovation (Source: Heeks et al., 2013).



This type of innovation therefore focuses on technical aspects and does not appreciate the need for continuous innovation – continuous innovation during diffusion (Foster and Heeks, 2013). Looking further into the levels of inclusive innovation, Heeks et al. (2013) explained that each individual step or level does not represent true inclusive innovation. Furthermore, as you go up each level, fewer real-life examples exist.

9.2 Social innovation

Social innovation is defined as novel activities, ideas, models, services and solutions to social problems where the value is primarily directed to society (James et al., 2008; Mulgan, 2006; Mulgan et al., 2007; Murray et al., 2010). Social innovations not only meet social needs, but through their collaborative nature of development and implementation are likely to lead to new social relationships (Murray et al., 2010). Expanding upon social innovation’s potential

as a fertile ground for new relationships or forms of social organisation, Nicholls et al. (2015) described social innovation as a movement without boundaries which in its pursuit of social needs was founded upon possibilities.

Social innovation has been differentiated from business innovation on the basis of profit being the main driver of business innovation (Mulgan, 2006). A key differentiator between social innovation and business innovation therefore remains as the motives behind the innovation. For business innovations the motivation is usually material and the metrics for measuring success differ from those of more socially oriented innovations. Social innovations have been noted as being more focused on meeting and fulfilling an intense but contained need (Mulgan, 2006). Furthermore, Mulgan (2006) acknowledges the transferability of both business and social innovation across social and for-profit organisations for example, when a for profit organisation adopts an innovation pioneered by a social organisation or when a for-profit organisations develops an innovation to address a social need in order to meet its objectives of profit maximisation.

Literature (Mulgan, 2006; Mulgan et al., 2007) suggests that in societies where power is monopolised or where no independent sources of money exist social innovations do not happen easily and those that make it to implementation stage are more likely to be strangled at birth. This suggests that for social innovation activities, solutions or services to be developed and implemented successfully, particular background factors and social contextual elements are required (Murray et al., 2010). Furthermore these background factors are crucial in creating a favourable environment in which social innovations can be promoted, adapted and/or scaled successfully (Murray et al., 2010). For success in social innovation, Mulgan (2006) recommended the close involvement of people who are well apprenticed with the needs as well as sophisticated metrics of success which recognise and reward rapid learning and evolving end goals. Adding to this notion of a favourable environment for the successful implementation of social innovation, Nicholls et al. (2015) stated that the right circumstances are required in order to create ‘effective demand’ for social innovations to achieve scale successfully. The ‘connected difference’ theory of social innovation further states that (Mulgan et al., 2007):

- a) Normally social innovations are blends or hybrids of existing elements instead of being entirely novel ideas, activities, solutions or services in themselves.

- b) Putting social innovations into effect usually involves cutting across organisational, sectorial or disciplinary boundaries and often tapping into new sources of value by arbitraging ideas and knowledge. Social innovation is said to depend on alliances between individuals and small organisations that have the ideas, and governments and bigger organisations who might lack the creativity but have the resources and resilience to implement and make achieving scale possible. Additionally, connectors play a key role in any innovation system by linking ideas, people, money and power. Without these, most innovations will either be frustrated or not succeed.
- c) Social innovations leave behind compelling new social relationships between previously autonomous individuals and groups. These relationships are of great significance to the people involved, contribute to the diffusion and embedding of the innovation and fuel a cumulative dynamic whereby each innovation opens up the possibility for further innovations.

According to Mulgan et al. (2007) potential barriers to successfully socially innovate include:

- a) *Efficiency*. Most social innovations at first threaten efficiency of current systems. The reason for this may be that in any social system the different elements would have optimised around each other over time. This corresponds with informal sector literature which noted that informal players are less likely to want to adopt any changes in their current systems for example through formalising, if they have had success at an informal level (Lubinda, 2016).
- b) *People's interests*. This is particularly when the perceived risk of change is greater than the benefits of complacency.
- c) *Minds*. Social systems are shaped within peoples' mind as assumptions, values and norms. The more the system appears to work, giving people security and prosperity the more the norms will become entrenched as part of peoples' very sense of identity.
- d) *Relationships*. An apparent network of personal favours and debts could 'get things to happen' in a stable system, but these are likely to be a deterrent towards any radical change.

The above barriers are likely to be conquered if for example the current system or way of doing things increasingly offers lesser value and benefit and efficiency to the people then

their interest will be piqued in the social innovation (Mulgan et al., 2007). Earlier writings by Mulgan (2007) and Mulgan et al. (2007) suggested that the ‘who’ of social innovation extends across a small number of ‘heroic, energetic and impatient’ individuals in movements, governments, social enterprises and socially oriented organisations with a largely social purpose. However, as inclusive innovation literature suggests the ‘who’ of social innovation is also likely to evolve during the process of diffusion and as new inequalities and problems arise (George et al., 2012). This suggests that the implementers of various social innovations are at times mere carriers and not necessarily originators of the ideas. Murray et al. (2010) acknowledges that a majority of innovations originate in the informal life of households although these are unrecognised as originators of innovations. Additionally, Mulgan et al. (2007) elaborated that the future of most innovations was more likely to be oriented around social innovation where users co-create value alongside producers.

Although insightful in outlining the landscape of social innovation Mulgan’s paper does not offer insights on social innovation process at grassroot or shadow/informal economy level. As indicated by the writings of Murray et al. (2010) and Nicholls et al. (2015), social innovation is a broad field with no boundaries. Current literature and investigations on understanding the various forms and applications of social innovation have been focused on individual and generalised case studies with minimal broader context-specific analysis which could explain the phenomenon of social innovation in other contexts including in the informal sector within developing country contexts (Mulgan, 2006; Mulgan et al. 2007). There is agreeably minimal knowledge on social innovation and especially in a sector such as informal sector recycling within the Bulawayo, Zimbabwe context.

9.3 Inclusive, social innovation and the informal sector

Social exclusion refers to victimisation and marginalisation based on identity, class, status, condition or (economic) disadvantages (Semibring, 2009). Based on these mis-perceptions, the informal sector and lower waste system value chain players (waste harvesters) are socially excluded from mainstream socio-economic spaces. As we pursue sustainability aims during the graduation of informal waste systems, it is imperative that the process is built around considerations of inclusive, social innovation.

Social innovation is defined as a unique solution to a social problem whose outcome primarily benefits society (James et al., 2008). After studying the informal sector within

grassroot innovation systems, Gupta (2013) wrote how alternative inclusive approaches could help to sustainably address the unmet needs of the resource-poor by harnessing through inclusive and social innovative approaches, the tacit knowledge and innovations inherent within these.

Gupta (2013) argued that today's developmental efforts to facilitate the transition of marginalised groupings such as the informal sector into mainstream development, should happen with considerations made on the knowledge and other grassroot innovation systems which marginalised groupings have. This is in line with recommendations from waste systems evolution literature which states that any developments or transitions in current waste systems should consider the elements of existing systems (Wilson et al., 2006). Gupta (2013) highlighted that during transactions between the formal and informal sector it is important to recognise and reward creative grassroot knowledge systems and acknowledge when these are used in informing or developing inclusive, social innovations oriented development strategies. To draw lessons from these without acknowledging and rewarding their origin would be comparable to robbing the resource-poor of the little which they have (Gupta, 2013).

In addition to the above, even as inclusive innovation is about including the previously marginalised in the mainstream of development (Foster & Heeks, 2013), Nicholls et al. (2015) stated how social innovation was founded upon a democratic ideal of self-governance in which people shaped and designed their world through new or alternative forms of social organisation. The informal sector presents one such alternative form of social organisation within the market economy. Nicholls et al. (2015) stated that there is a need for context specific data on the growth and degeneration of various forms of social organisation, their social make up and characteristics. During the literature review, this research found minimal context-specific literature on informal sector recycling activity in Bulawayo to provide a holistic understanding of the rationales and characteristics of this sector. With the on-going national focus on economic recovery and facilitating the formalisation of the informal sector in Zimbabwe, it is imperative that empirical evidence is developed which can inform progressive strategies to support any prospects of sustainable development within informal sector recycling.

10.0 Literature review conclusion

Following a review of literature, the following section summarises arising thematic issues, the design of this research as well the research questions.

10.1 Literature review thematic issues

As global solid waste management systems evolve beyond technical and logistical considerations (Tsakona, 2014) to include wider elements of sustainability (Zurbrugg et al., 2012; Morrissey and Browne, 2004), developing countries still seem to struggle with more primitive challenges including how best to work with a growing informal sector (Wilson, Velis & Cheeseman, 2006). The challenges faced in Bulawayo's current solid waste management system are no different as the system's mainstream players continue to struggle with how best to harness opportunities presented through the inclusion of non-traditional stakeholders including communities and the informal sector (Mwanza & Phiri, 2013; The Standard, 2011; Ndlovu, 2015b).

As the Bulawayo City Council (BCC) strives to evolve the solid waste management system while considering existing systems and changing patterns within these, a notable changing pattern has been the growth in the number of informal sector recycling (ISR) players (Environmental Health Services Department, 1995; 2009; 2012; 2015). With the Zimbabwean government's focus on formalisation, there is a need for research which provides a context-specific representation of informal players' views and experiences to inform sector-specific developmental strategies (Probe Market Research, 2016).

Medina (2008) reported that with organisation and support waste picking could catapult grassroots investments by the resource-poor, create jobs, reduce poverty, reduce municipalities' costs, improve industrial competitiveness, and protect the environment. The informal sector undoubtedly has potential to contribute significantly to long-term economic development and growth by cultivating a "seedbed of experienced entrepreneurs" (World Bank, 1999). This potential and the acknowledgement that 'informal' has different levels, meanings, rationales and implications in different contexts especially in Zimbabwe's volatile and unique economic conditions; means that alternative approaches to formalisation are non-negotiable (Williams & Nadin, 2012). Notable examples of these alternatives to traditional formalisation strategies mentioned as part of the literature review include facilitating the graduation from informal micro-enterprise level to medium and large scale (Grosh &

Somolekae, 1996) through an incubator approach (Chinyoka, 1991); Cross-generational savings by micro-enterprises (Grosh & Somolekae, 1996; Hoogeveen & Tekere, 1994); the promotion of informal to formal sector, forward and multi-lateral linkages (Ishengoma and Kappel, 2006); informal sector recycling cooperative models (Morrissey & Browne, 2004; Medina, 2008; Trade Compass, 2016) and multi-sectorial partnerships (Morrissey & Browne, 2004).

Perhaps one of the most progressive alternative strategies proposed within the Zimbabwean context to develop the informal sector has been through the 2015 to 2020 Zimbabwe Engineering, Iron and Steel (EIS) sectorial strategy (EISAZ, 2015). The EIS strategy recommends that in order to boost the competitiveness of value chains the informal sector must play a more active role in mainstream economic spaces. The approach proposed within this sector strategy follows a value chain approach which harnesses alliances or relationships across different actors. Although this recommendation was particularly directed for sector and value chain development of the engineering, iron and steel sector it can be applied in other sectors including informal sector recycling.

Building upon lessons from the above, there is an opportunity to explore context-specific models which will leverage the untapped potential of the informal sector and grassroots innovations inherent within these. Gupta (2013) wrote how alternative inclusive approaches could help to sustainably address the unmet needs of the resource-poor by harnessing, through inclusive and social innovative approaches, the tacit knowledge and innovations found in resource-poor populations. Furthermore, in harnessing inclusion and social innovation, there is a need for context-specific informal sector development approaches which recognise the informal sector as an economic prototype with possible meaningful contributions to the mainstream economic models. In so-doing such approaches should actively pursue a cross-fertilisation of tacit knowledge and innovations between the informal and formal to not only meet the needs of the resource-poor, but to also drive the competitiveness of both formal and informal players.

10.2 Research design

The focus of this research is to undertake an exploration of models and approaches which can leverage the potential of the informal recycling sector. The development and transition of informal sector recycling (ISR) into mainstream economic spaces is impossible without first

attempting to understand the context-specific business models which are used by this particular group as they adopt or adapt industrialised processes. By unpacking the models employed by the informal recycling sector and the inclusive, social innovation opportunities inherent in these, this research intends to offer progressive insights on how best to unlock shared value during the integration of informal sector recycling into formal solid waste management systems.

Minimal understanding exists around ISR activities in Bulawayo, Zimbabwe in order to inform strategies on how to support the transition of these into mainstream economic spaces. Therefore, this explorative research design adopted an inductive, qualitative approach based on a case study on ISR activity in Bulawayo. This research followed a qualitative approach through a rapid ethnography (Millen, 2000; Handwerker, 2001; Jordan, 2012) focus group discussions and key informant interviews (Bergold & Thomas, 2012; Bryman & Bell, 2007).

This design was specifically so to allow the researcher to unearth the deeper perceptions around informality and formalisation from the ISR's perspective as well as insights into the business models they use and how these harness inclusion and social innovation. Additionally, in exploring the perspectives of ISR players this research adopted a participatory approach to draw up a value chain of ISR activities (focusing on waste harvesting or resource reclamation stage, processing and sale stages). This participatory approach drew from inclusive innovation literature which encourages the involvement of the study group during the process of developing solutions (Heeks et al., 2013). Furthermore, this participatory approach was used in order to gain trust and permissions of the informal players (Bryman & Bell, 2007).

10.3 Research questions

From the arising thematic issues and research design, this research focused on variations of the below questions.

- What business models do informal sector actors use as they adopt and/or adapt to industrialised practices in transitioning toward mainstream economic spaces?
- How do such business models create opportunities for inclusion and social innovation?
- How do informal sector actors perceive concepts of 'formal' and 'informal' in relation to their work and sector?

PART THREE – RESEARCH METHODOLOGY

11.0 Research approach and design

Following the literature review, this third part outlines the research methodology adopted.

11.1 Research approach and rationale

This exploratory research undertook an inductive approach using qualitative research (Bergold & Thomas, 2012; Bryman & Bell, 2007). Qualitative research in the form of a rapid ethnography, focus group discussions and key informant interviews was gathered (Millen, 2000; Handwerker, 2001; Bryman & Bell, 2007; Jordan, 2012; Bergold & Thomas, 2012). Historically, ethnographic research was conducted over long periods of fieldwork (Handwerker, 2001). However, the use of rapid or quick ethnography in this research follows an acknowledgement of the need to conduct quality research with a limited time in the field (Millen, 2000; Handwerker, 2001; Jordan, 2012). While traditional ethnography is approached from a wide angled research perspective, in line with rapid ethnography, this research defined a clear focus and scope (Millen, 2000). To ensure completeness and confirmation of data representation and validity, this research combined conventional and novel forms of data collection outlined in the following sections.

The rationale for this approach was to unearth the deeper informal sector recycling (ISR) perceptions around ‘informality’ and ‘formalisation’ as well as to conceptualise what approaches can allow ISR business models to harness inclusion and social innovation in the transition from informal into mainstream economic spaces. Additionally, this approach helped to unearth how the primary target research population made meaning of their experiences (Rabionet, 2009) within their context (Jacob and Furgerson, 2012) in line with the focus of this research.

11.2 Research design, data collection methods and research instruments

The design of this research followed a case study approach. The case study design allowed the researcher to understand complex-inter-relationships, collect context-specific empirical data based on lived reality regarding informal sector recycling (ISR) activity and resultant business models (Hodkinson and Hodkison, 2001).

This research employed a participatory approach in drawing up an ISR value chain map. In this exercise the researcher worked directly with two preliminary groups of ISR players to map the processes they went through in resource recovery or waste harvesting and eventual processing before sale, and how they created value within these stages. The preliminary groups were made up of ISR players based at Ngozi mine as well as those based in communities. This approach was in line with inclusive innovation literature which encourages the involvement of the study group during the process of developing solutions (Heeks et al., 2013) and also in order to gain trust and permissions of the informal players (Bryman & Bell, 2007). Additionally, using the two groups allowed for a comparative value chain analysis of how ISR business models in different geographic sites.

Appendices one (1) and two (2) provide samples of research instruments including the interview protocol and sample research questions. Table two (2) below demonstrates the relationship between the research design, data collection methods and research questions.

Table 2: *The relationship between the research design, data collection methods and research questions*

Phase 1	Value chain mapping through two (2) preliminary focus group discussions	<p>A value chain mapping exercise (Wardley and Moschella 2013) was undertaken through a participatory approach involving two (2) focus group discussions with informal sector recycling (ISR) players. The purpose of this participatory exercise was to:</p> <ol style="list-style-type: none"> 1. Map out the various stages involved in value creation and to understand how value was created and exchanged; 2. Unearth the motivations, underlying beliefs and cultural institutions which underlie value creation in informal spaces (de Jong and van Dijk, 2015); 3. Visualise differences in how the informal transacts with the informal and formal sector in value creation and value exchange; 4. Visualise how ISR value chains harness inclusion and social innovation. <p>Outputs from the value chain mapping exercise also helped to improve the quality of focus group discussion points as per the research focus.</p>	<p>Key questions and observations centred around:</p> <ol style="list-style-type: none"> 1. How value was created from one stage to another? What are the grassroots innovations, strategies employed and arising inefficiencies affecting profitable scale? 2. What interaction and transactions exist amongst ISR players and between ISR players and the formal sector? 3. What are the differences in how ISR players transact in informal or shadow economy spaces versus in formal or mainstream economic spaces? 4. How do current business models harness or push boundaries of inclusion and social innovation? 5. How do ISR players and resultant business models self-organise and govern?
Phase 2	ISR focus	Nine (9) focus group discussions were held involving one hundred and seven	Key questions include:

	group discussions	<p>(107) ISR players. Of these forty (40) were women. Of the nine focus group discussions, two (2) were follow up discussions which involved twenty (20) ISR players from Ngozi mine and those based in communities.</p> <p>The focus group discussions aimed to unearth the collective rationalisations and perceptions on:</p> <ol style="list-style-type: none"> 1. Challenges and opportunities for inclusion and social innovation at each value chain stage; 2. ‘Formalisation’ and ‘informality’ with regards to the transition from shadow to mainstream economic spaces; 3. Perceptions around value creation, social good and value. 	<ol style="list-style-type: none"> 1. What business models do informal sector actors use as they adopt and/or adapt industrialised practices in transitioning toward mainstream economic spaces? 2. How do such business models create opportunities for inclusion and social innovation? 3. How do informal sector actors perceive the concepts of formal and informal in relation to their work and sector? <ol style="list-style-type: none"> a) What does ‘informality’ mean to ISR players? b) How do they conceptualise their ‘formalisation’ or transition into mainstream economic spaces?
Phase 3	Key informant interviews	<p>Seven (7) ISR players undertook key informant interviews. The purpose was to understand how collective perceptions, belief systems around value creation and collective lived experiences on ‘informality’ and aspirations towards ‘formalisation’ translated to individual realities.</p>	

To complement the above, a phenomenological approach was followed through a rapid ethnography (Millen, 2000; Handwerker, 2001; Jordan, 2012). The ethnography concentrated on the lived experiences of ISR players, the ‘survival’ strategies and forms of self-organisation employed by ISR players and their resultant business models which allowed these players to thrive within shadow economy spaces. Besides helping to immerse the research in the lived reality of ISR players (Hodkinson and Hodkison, 2001), the rapid ethnography observations also helped to verify and contextualise data recordings from interviews and focus group discussions. Furthermore, as grassroots communities do not always perceive the innovations around them as innovations (Gupta, 2013), the immersion of the researcher in the lives and daily work of the informal sector helped to capture and examine intangible elements (strategies, framing cultural institutions and working culture) of ISR business models as well as to identify grassroots innovations and contextual elements which have shaped these.

11.3 Sampling

The primary research population constituted informal sector recycling (ISR) players. In order to allow for comparative examinations and to establish the context in which ISR business models created and exchanged value, data collection was expanded to include mainstream players including private sector (formal recycling companies), local government (Bulawayo City Council), environmental regulatory authority (Environmental Management Agency) and policy level stakeholders (Ministry of SMECD and Cooperative Development). Research findings from these are provided in the following section. This has been structured so that the research findings from these interviews help to build a contextual background to comparatively analyse research findings from ISR data collection exercises.

Towards data collection a sample of the above stakeholder groups - both formal and informal, was chosen using convenience sampling (Bryman & Bell, 2007). Due to the limited time in which this research was undertaken and the highly mobile nature of the informal sector’s operations (Chen, 2012; Ndlovu, 2015b), convenience sampling was done in order to ensure favourable response rates through a targeted identification of research participants more accessible to the researcher (Bryman & Bell, 2007). In order to allow respondents to elaborate and communicate their life experiences the focus group discussion and interview questions were set in a semi-structured, open ended manner (Appleton, 1995). Furthermore,

research instruments were translated into local languages including focus group discussions, whenever was necessary during the course of the data collection phase.

11.4 Data collection process

Introductory field visits were held to gain familiarity with the research participants. During these visits a preliminary classification of informal sector recycling (ISR) players in Bulawayo, Zimbabwe was conducted through participatory approaches. Using convenience sampling, the researcher carried out two preliminary focus group discussions with twelve (12) ISR players (both those based at the dumpsite and those based in communities). The researcher worked with this preliminary group to identify groupings of ISR players and classify these. This classification of existing ISR players in Bulawayo unveiled four distinct groupings of ISR players in Bulawayo based on their area of operation.

The groupings of ISR players included those based in and/or working from Ngozi mine (Bulawayo city's dumpsite area), those working from the central business district (CBD) and those based in and working from communities – mostly in the high density suburbs. The fourth group was identified as ISR players from other towns who came to harvest or buy recyclable waste from Bulawayo based ISR players. Due to the high mobile work nature of the CBD and 'out of town' ISR players, both CBD based and 'out of town' ISR players were excluded from the target group. The scope of this research was revised following feedback received during this preliminary classification using the accessibility of the different ISR groupings as criteria for finalising the research target group.

Following observations, informal discussions and pilot interviews involving ISR players from the targeted groups preliminary research tools were developed and finalised. As part of the rapid ethnography approach (Millen, 2000; Handwerker, 2001; Jordan, 2012), a total of nine (9) focus group discussions were held involving one hundred and seven (107) ISR players. Forty (37.0%) of the ISR participants were women whereas sixty-seven (63.0%) were male. Key informant interviews were held with seven (7) ISR players and seven (7) mainstream economy stakeholders. Table three (3) below illustrates the data collection processes undertaken as well as the timeline for these. Appendix three (3) provides greater detail on the extent of volume of data collected including both for transcripts (32,060 words) and voice recordings (14hours 06minutes 42seconds).

Table 3: Overview of the data collection process/activity and timeline

Data collection process/activity	Timeline
Mainstream key informant interviews to establish an empirical context on ISR activity in Bulawayo	17 November 2016 to 31 January 2017
Preliminary ISR focus group discussion at Ngozi mine	2 February 2017
Preliminary ISR focus group discussion at Mpopoma (community groups)	2 February 2017
ISR focus group discussions at Ngozi Mine	4 February 2017 to 11 February 2017
ISR focus group discussions at Mpopoma (community groups)	11 February 2017
Part time rapid ethnography at Ngozi mine	27 February 2017 to 4 th March 2017
Part time rapid ethnography at Mpopoma (community groups)	20 February 2017 to 25 February 2017
Follow up ISR focus group discussions at Mpopoma (community groups)	22 March 2017
Follow up ISR focus group discussions at Ngozi mine	24 March 2017
Key informant interviews with ISR players (Ngozi mine and Community based)	25 March 2017

11.5 Data analysis

Data analysis was undertaken simultaneously to data collection (Creswell, 2013). Following validation of the true representativeness of the data collected the researcher prepared the data for analysis (Appleton, 1995). As this research took a case study and rapid ethnographic approach involving detailed descriptions of the phenomenon under study, the researcher first aggregated and transcribed data in preparation for coding and analysis. Towards hand-coding, the researcher used a combination of pre-determined and emerging codes (Creswell, 2013). Pre-set codes were established by the researcher during preliminary data analysis and triangulation of emerging patterns from cross interviews.

The researcher hand-coded the data using Microsoft excel. Although laborious this process helped the researcher to become intimately acquainted with the data and to pick arising themes. As a result, data analysis focused on theme and pattern interpretation (Creswell, 2013). Here, the researcher aggregated large data and picked arising themes from these as per

the research questions. The researcher then went through a process of interpreting the meaning of these themes and how they were used in different situations or contexts.

11.6 Considerations around validity and reliability

In its design the research recognised that bearing the sensitivity of topics around formalisation of the informal sector between government stakeholders and informal players, in some instances stakeholders had to be interviewed separately. As such, the focus group discussions and interviews of informal and formal players were held separately. However, to ensure the validity and representativeness of the data collected, the research asked the different research groups similar questions around similar topics to allow a comparative analysis and triangulation of their responses (Bryman & Bell, 2007).

Where discrepancies arose, follow up interviews were held. Additionally, in order to ensure that the responses received from informal players were representative of wider informal recycling players' perspectives, follow up focus group discussions were held which asked variations of the same questions to different groups. To ensure inclusion (Heeks et al., 2012) and acknowledge information gathered from the research population (Gupta, 2013), follow up focus group discussions included presentation of the preliminary research data findings in order to validate the credibility of the data and gauge its 'true value' as being an accurate description of their lived experiences (Appleton, 1995).

PART FOUR – RESEARCH FINDINGS, ANALYSIS AND DISCUSSION

Following a review of the research methodology employed in undertaking this research, this section contains the notable findings of this research. Before reviewing the research findings, this section starts off by painting a background of informal sector recycling (ISR). This section does this by providing an overview of findings from interviews with mainstream economy players from government and private sector which provide an empirical context to findings from ISR data collection exercises.

12.0 Establishing the context of ISR activity in Bulawayo: Government and formal sector perspectives

Following an overview of informal sector recycling (ISR) activity in previous sections of this document, the following segment aims to describe ISR activity in Bulawayo, Zimbabwe. As informal sector activity is largely undertaken without recordings, this research found minimal documentation on ISR activity specific to Bulawayo. In order to establish a contextual understanding of perceptions around ISR activity in Bulawayo, the following section outlines findings by this research from interviews and discussions with representatives from a policy maker (Ministry of Local Government), a regulatory authority (Environmental Management Agency), a local authority (Bulawayo City Council) and from formal recycling entities. The perspectives provided in this section are instrumental in the comparative analysis of primary data recordings and findings.

12.1 A policy maker's perspective on ISR activity in Bulawayo

From a policy perspective, there was generally minimal context-specific knowledge and understanding around informal sector recycling (ISR) activity in Zimbabwe and more particularly in Bulawayo. According to a Ministry of Local Government official (personal communication, 10 January, 2017) there was an acknowledgement that “*recycling (in Bulawayo) was being done*” albeit “*at insignificant levels.*” At a policy level, the Ministry of Local Government encouraged local authorities including the Bulawayo City Council (BCC), to promote recycling and waste reduction at source. However, there was no direct policy intervention related to recycling (personal communication, 10 January, 2017).

At a policy level ISR activities in Zimbabwe and in Bulawayo particularly, were associated with a negative image. For example, ISR players were viewed as “*scavengers*” and their activities were considered as being a menace and an extra burden on the Bulawayo City Council as “*what they picked from one or more locations also became waste in another location which the local authority had to clean*” (personal communication, 10 January, 2017).

The recycling industry was managed inter-ministerial. The industry fell under the Ministry of Local Government, the Ministry of Environment and the Ministry of Health. The recycling industry in Zimbabwe was viewed as a field for environmentalists, philanthropists and non-government organisations. ISR activities were not linked to any significant economic potential. As a result of this and as highlighted by a policy maker representative, the recycling industry as a whole was not listed amongst industries targeted by the Ministry of

Industry and Commerce and Ministry of Small and Medium Enterprises and Cooperative Development (Ministry of SMECD) to receive policy related support to facilitate the transition of its informal players to formal levels under the national formalisation agenda (personal communication, 10 January, 2017). Furthermore, as neither of the Ministries of Local Government, Environment and Health had a direct focus to promote the graduation of informal and micro-level enterprises into mainstream economic spaces, a concerned regulatory authority official indicated that the informal sector recycling sector would within the foreseeable future continue to not have the necessary policy level support to create a conducive environment to enable its transition into mainstream economic spaces (personal communication, 23 January, 2017).

According to an official from the Ministry of Local Government “*some (ISR players) were involved in processing plastic into cobra but it was at such small scales that the impact could not be seen. Moreover no one had tested the quality. It was like no one cared. There was no environmental impact analysis. They (ISR players) could be polluting the environment and no one would even be aware*” (personal communication, 10 January, 2017). This statement illustrated that part of the concern for policy makers regarding ISR activity lay in its isolated, unmeasured impact and unconfirmed positive or negative impacts as well as unverified quality, occupational health and safety standards. Although these concerns were unsettling, another government representative stated that there was not enough understanding available to inform policy reaction (personal communication, 10 January, 2017). Furthermore, even if such knowledge were to be available “*ideas did not get implemented – the report would be endorsed but then business would continue as usual afterwards*” (personal communication, 10 January, 2017).

In terms of a progressive solution to resolve challenges faced within the informal recycling sector, the perspective at policy level was that it would take public-private partnerships between Ministries (Environment, Local Government and Health), private sector and Universities to develop technological solutions required in solid waste management (personal communication, 10 January, 2017). The focus on technological solutions and public private partnerships exemplified that the collective knowledge and experience of ISR players was still not recognised as a potential qualified contributor to policy level dialogue on how to improve the industry as a whole.

12.2 A regulatory authority's perspective on ISR activity in Bulawayo

A senior official within the Environmental Management Agency (EMA) expressed that the Agency appreciated that *“there was money in waste”* (personal communication, 23 January, 2017). Additionally, the perspective of this regulatory authority was that informal sector recycling (ISR) players contributed extensively towards environmental cleaning efforts (personal communication, 23 January, 2017). In particular, the contribution of community based ISR groups was noted to extend from cleaning the environment by picking waste, to educating and motivating the public to dispose of waste in environmentally suitable ways. However, the senior official from the regulatory authority stated that the authority did not feel that ISR players, both community groups and individual waste pickers, were managing their activities as a business and hence their activities were more survivalist and unsustainable (personal communication, 23 January, 2017).

As outlined above, EMA differentiated between two forms of organisation of ISR players namely, community groups and individual waste pickers. From EMA's perspective as a regulatory authority, the difference between community groupings and the network of individual waste pickers situated at Bulawayo's infamous dumpsite (Ngozi mine), was that *“the community groups had a semi-formal structure, were registered with the Environmental Management Agency (EMA) and were expected to have a bank account so that if there were interested donors they could access funding. The individual waste pickers in Ngozi mine just picked waste and piled it in anticipation that it might be money in the future”* (personal communication, 23 January, 2017). From the environmental regulatory perspective, the difference between how community groups and individual waste pickers self-organised extended across one having a collective structure (community groups) and the other, an individualistic but interconnected structure (individual waste pickers); and the use of formal financial systems for payments and registration on EMA's database.

EMA had registered five (5) community groups in Bulawayo, with all of them situated in high density residential areas. The community groups did not pay any registration fees, but through their registration on the database gained access to support including access to financial and other resources. Although EMA provided capacity building support to individual waste pickers located in Ngozi mine, there was no database of these players save for a few individuals who self-organised and formed a structure in order to receive assistance from EMA to access land to use as a semi-formal workspace. From the environmental regulatory authority's perspective, registration on their database was a form of validation of

activity and was a pre-requisite for consideration to receive funding and other non-financial support (personal communication, 23 January, 2017).

Limitations to the transition of ISR activity into mainstream economic spaces were attributed to ignorance of ISR players regarding the benefits of the process (personal communication, 23 January, 2017). Additionally the government official stated that, *“even as EMA enlightened the informal sector, not all players want them to be ‘enlightened’. The formal sector at times misled the informal sector in order to gain from them”* (personal communication, 23 January, 2017). This indicated that at times the socio-economic exclusion of informal sector recycling players from mainstream economic spaces was driven by formal and semi-formal players on the basis on economic benefit.

Furthermore, the fact that the recycling industry was not considered as one of the industries under the Ministry of SMECD signals that mind sets around waste coupled with the negative image of ISR activity as *“something done by poor people or scavengers”* posed an additional driving factor for the socio-economic exclusion of players in this line of work (personal communication, 10 January, 2017). As noted by an EMA official, whereas waste had an economic value and benefit, *“it would take time for people to attach value to it”* (personal communication, 23 January, 2017).

12.3 A local authority’s perspective of ISR activity in Bulawayo

The Bulawayo City Council (BCC) was noted at policy level as being one of the most progressive local authorities in implementing strategies which attempted to create shared value between informal sector recycling (ISR) players as well as the community of waste generators (personal communication, 10 January, 2017). The earliest record available of Bulawayo’s solid waste management system dated back to the 1940’s. Since then and to date, the focus of the system has shifted in effort to keep up with global trends from a technical focus to a system in which the community of waste generators are increasingly being actively involved through sweeping groups and informal waste collection tenders (personal communication, 31 January, 2017). Macro-economic conditions motivated the local authority to explore alternatives to address the challenges being faced in solid waste management (personal communication, 31 January, 2017).

This research found that the BCC was progressively moving towards human centred systems characterised by flexible arrangements with the community and ISR players. In yesteryears,

“no person was allowed in the landfill and any independent recycling assistants were there illegally” (personal communication, 31 January, 2017). However following an increase in ‘independent recycling assistants’ and in effort to regularise these, in 2008/9 the BCC released tenders for these independent recycling assistants to form groups, collect different waste streams and pay a small fee to Council. Following consultations with independent recycling assistants the BCC revised the tender regulation so that payments would be made by buyers instead of the waste pickers themselves (personal communication, 31 January, 2017).

Following the adoption of independent recycling assistants in Bulawayo’s solid waste management system the BCC observed a reduction in the number of landfill fires and fatalities in the dumpsite. *“It’s been more than three (3) years since we last had a fatality in the dumpsite. We have arrangements with them (the independent recycling assistants). They no longer hop onto moving vehicles or burn refuse as they are given time to salvage what they want. They have helped to increase recycling rates and to decrease the amount of recyclable waste lost through landfilling”* (personal communication, 31 January, 2017). Unfortunately there was no weigh bridge at the landfill site. Therefore, no official statistics were available on the actual contribution of ISR activity to Bulawayo’s recycling rates.

From the City Council’s perspective the main differences between formal and informal sector recycling players included equipment used, workspaces and market access. For example, whereas formal players could access export market opportunities ISR players cannot. In terms of untapped opportunities for the informal recycling sector as we move towards a circular economy, the BCC saw *“informal sector recycling as a way of attaining these goals as well as the sustainable development goals (SDGs). If informal sector recycling became profitable it could help eliminate hunger, alleviate poverty and enable some families to send their children to school”* (personal communication, 31 January, 2017).

12.4 Formal sector perspective on ISR activity in Bulawayo

Following an outline of key government institution’s perceptions around informal sector recycling (ISR) activity in Bulawayo, this following segment outlines private sector players’ perspectives. This section is informed by key interviews involving formal recycling companies.

Three (3) recycling companies were engaged as part of the key informant interviews. In detailing what business they were in, two (2) out of the three (3) had a predominantly production oriented focus whereas one had a dual focus on production and collection aspects. This shows that for the formal sector ‘their business’ was what happened on the production floors. This approach to business stifled possibilities for progressive engagements with ISR players beyond surface level interactions. An increasing number of recycling companies were found to be adopting forward integration strategies in the value chain. For example, a representative of one of the recycling companies stated that *“since two years we have gone down the value chain and now have a shop fitting business. We used to sell semi-finished products, but now we are making and supplying finished products”* (personal communication, 5 January, 2017).

All the recycling companies interviewed had arrangements with both formal and informal players to supply their operations with recyclable waste. The formal suppliers included commercial waste generating companies and semi-formal “waste entrepreneurs” whereas informal suppliers included community based groups (CBOs) and individual “vendors” (personal communication, 5 January, 2017). According to the explanations provided, waste entrepreneurs were semi-formal recycling players who *“appreciate that there is value in waste. They pick different waste streams and are linked to a number of organisations including EMA, Municipalities and have collection arrangements with commercial waste generators”* (personal communication, 17 November, 2017; 5 January, 2017).

Formal recycling companies provided the below differentiating characteristics of ISR business models and transactions:

- a) Their way of doing business was characterised by a lack of documentation, unrecorded payments, unstructured relationships and decisions (personal communication, 5 January, 2017; 17 November, 2016).
- b) Formal waste generators normally had weigh bridges and supplied their waste already sorted as they normally dealt in particular waste types linked to their production activities. ISR players did not have any equipment including scales and dealt in different waste types at different periods (personal communication, 5 January, 2017).
- c) In order to do business with ISR players one had to *“go where the dirt was, identify with the people and be one with them, and establish a good working relationship”* (personal communication, 17 November, 2016). This indicated that personal relationships were

more important at an informal level and were sometimes a pre-requisite to business dealings.

- d) ISR players were said to have different motivations from formal suppliers. The motivation behind commercial waste generators' supply included environmental stewardship values, compliance to waste disposal regulations (personal communication, 17 November, 2016; 5 January, 2017) and convenience (personal communication, 5 January, 2017). On the other hand, supply from ISR players including semi-formal waste entrepreneurs, was noted as being motivated by the expected economic benefit of the transaction.

Formal recycling companies acknowledged that ISR players were the drivers of the recycling industry. Sixty to eighty percent (60-80%) of the volume of supplied recyclable waste was reportedly supplied by ISR players (personal communication, 5 January, 2017; 17 November, 2016). In terms of how these formal sector companies sourced their waste from ISR players, all interviewed recycling companies stated that they tapped into "a network of vendors" in order to access post-consumer recyclable waste. Expanding on the concept of ISR players being 'a network' a senior official from one of these formal recycling companies stated: *"we know there are people who make a living out of collecting waste. There is an active network of people who have been collecting paper for a long time, amongst other recyclables. When we go to a new town we target such people initially as a first step. We go to the landfill and look for a recognizable player and penetrate through that person"* (personal communication, 5 January, 2017).

Formal recycling companies further acknowledged that ISR players were extensive knowledge bases. Another official from a formal recycling entity stated that *"if you go to the landfill you will get all the information from there. If you don't know anyone they will tell you who is doing what and from where at that particular time"* (personal communication, 5 January, 2017). According to formal recycling company representatives, this network of ISR players was characterised by an interconnectedness which allowed formal companies to approach an individual within that network and use this individual to identify other players dealing in a particular waste type. The advantages which formal recycling companies experience when working with ISR players included:

- a) Help in scrap mobilisation. Formal recycling companies did not have the resources (time, money and manpower) to “*do what (the work) the informal sector did. They (ISR players) do all the dirty work*” (personal communication, 5 January, 2017).
- b) Knowledge base “*working with them (ISR players) you really get to understand the real issues happening on the ground that you wouldn’t know. Some of the information is cascaded to other big business as these would be things that affect them. For example, informal sector recycling players have information on parallel industries*” (personal communication, 5 January, 2017).
- c) Continuous supply. With commercial waste generators (formal), supply was erratic and depended on their production patterns. However, the supply from ISR players was continuous. Formal recycling companies acknowledged the informal sector as being the “*future of recycling*” (personal communication, 17 November, 2016; 5 January, 2017).

The challenges which formal sector recycling companies faced when working with informal sector recycling players included:

- a) *Payment systems.* Most ISR players did not have bank accounts and according to formal recycling companies, those who did complained about the bank charges and hence preferred cash based payments. Furthermore as some ISR players sourced their waste in cash from other harvesters, they wanted to be paid in cash upon delivery (personal communication, 17 November, 2016).
- b) *Tax registration.* As most if not all ISR players were not tax registered, formal recycling companies were supposed to withhold ten percent (10%) when paying these. However, in some cases ISR players wanted the ten percent (10%) to be borne by formal recycling companies (personal communication, 5 January, 2017).
- c) *Group politics.* Sometimes ISR players operated as a group. During trade with formal recycling entities, an individual representative of the group discussed and agreed the trade terms with the formal recycling company on behalf of the group. However, at the point of concluding the supply arrangement, the group sometimes disagreed. This resulted in delayed transactions (personal communication, 5 January, 2017).
- d) ISR players seemingly did not take their work as a business (personal communication, 5 January, 2017). Additionally, according to formal recycling players ISR players lacked

professionalism and a sense of urgency (personal communication, 5 January, 2017). ISR players neither kept records nor did they reflect to see what they had made. For example, formal recycling companies noted that *“some of them (ISR players) get paid significant amounts, but they have nothing to show for it. This shows that they are not running as a business. They don’t account for their costs so it becomes hard to tell whether they are making money or not”* (personal communication, 5 January, 2017).

- e) Some ISR players were not transparent in their operations. Furthermore during trade transactions between informal and formal, there were issues of corruption and bribing in order to get better buying prices (personal communication, 5 January, 2017). Formal recycling companies acknowledged that although corruption existed even within formal levels, it was more prevalent at an informal level.
- f) ISR players seemingly did not want to graduate from the level they were in. Formal recycling companies stated that ISR players were not willing to take the necessary steps to grow including adopting safety standards and aggregating into supply groups in order to reduce their costs whilst providing convenience to recycling companies (personal communication, 5 January, 2017).
- g) The informal status of ISR players posed a governance concern to some of the formal recycling companies’. The various Boards of Directors were concerned that working with unregistered individuals could negatively affect company image (personal communication, 5 January, 2017).

Finally, regarding the graduation of ISR players into mainstream economic spaces interviewed formal recycling players felt that *“for them to grow, to benefit, to be recognized they must be registered. There are opportunities they miss because they are not formal. Government has been on the drive to ‘formalise’ SMEs. However some of these informal (sector recycling) players do not fit in the category of SME, but they still have the potential to contribute to the economy”* (personal communication, 5 January, 2017). A representative of a recycling company stated that simplifying the formalisation process and providing incentives could encourage ISR players to formalise (personal communication, 5 January, 2017).

13.0 Research findings

The main aim of this research is to explore business models which the informal sector recycling (ISR) players use as they adopt or adapt industrialised practices, and how these harness opportunities for inclusion and social innovation. The ultimate aim of this research is to give insights to these questions from an informal sector's perspective.

This following section outlines findings from a participatory value chain mapping exercise, part time micro ethnographic exercise spanning two (2) weeks, focus group discussions and key informant interviews involving ISR players. The sections also includes key findings of this research in respect to the research questions, namely – a) what business models do ISR players use as they adopt or adapt to industrialised processes; b) what are ISR perceptions of 'informality' and 'formalisation' in respect to their work and sector; and c) how do ISR business models harness inclusion and social innovation.

13.1 Informal sector recycling (ISR) player business models

This section outlines research findings on what business models the informal sector recycling (ISR) players use as they adopt and/or adapt industrialised practices in transitioning towards mainstream economic spaces. In dissecting these business models, this section uses a value chain mapping approach and through this, unpacks findings on the characteristics of these models.

13.1.1 Insights into ISR business models through a value chain approach

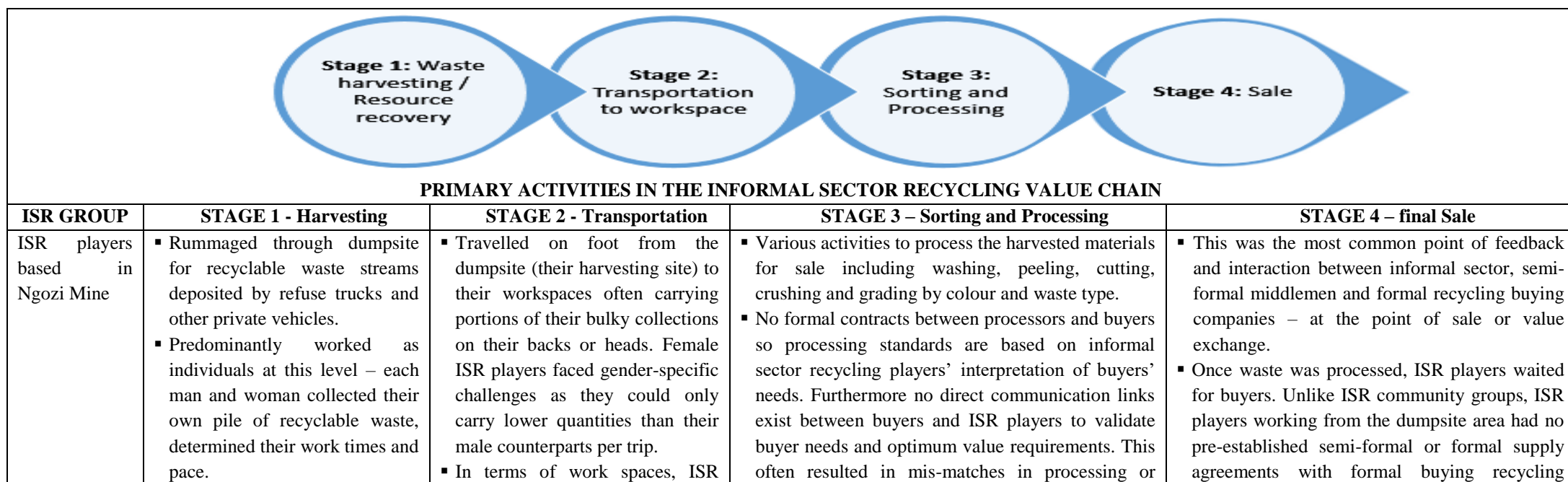
This research expanded the 'value chain' concept developed by Porter (1985) to not only focus on the physical transformation of reclaimed (harvested) waste, but also supporting processes involved in transforming and processing inputs into outputs (Kaplinsky and Morris, 2001). The adapted model reflects empirical findings specific to informal sector recycling (ISR) business models which emphasise the "what, when and how" value was created considering inter-linkages between different formal and informal actors across the value chain (Kaplinsky and Morris, 2001). This approach was proposed by Wardley and Moschella (2013) and is imperative in its application in this research as it helped to understand the context and ecosystem within which the ISR players perceived and created value through their interlinked business models as they adopted and/or adapted industrialised processes. This approach also helped to unpack the key characteristics of these ISR business models.

The research employed a participatory approach in drawing up the ISR value chain map. This participatory approach was in line with inclusive innovation literature, which encourages the involvement of the study group during the process of developing solutions (Heeks et al., 2013). The participatory approach was also used in order to gain trust and permissions of the informal players (Bryman and Bell, 2007). In this exercise the researcher worked directly with two groups of ISR players through focus group discussions to map the processes they went through in resource recovery or waste harvesting and processing before sale, and how they created value along these stages. Observations and data collection made during the rapid ethnographic exercise helped to verify data collection from the different approaches in order to ensure reliability of the data collected.

Table 4: Support activities in the ISR value chain - For Ngozi Mine (Dumpsite) and Community based ISR players

SUPPORT ACTIVITIES	<ul style="list-style-type: none"> ▪ Infrastructure: Characterised by no formal workspace; worked in open spaces in clusters at the dumpsite (for those based at Ngozi mine) and from their homes (for those based in local communities); work was not mechanised; adapted everyday tools as accessible substitutes for expensive industrial equipment. The quality of the end product, the product's value and the efficiency of ISR operations were therefore compromised at each value chain stage.
	<ul style="list-style-type: none"> ▪ Human Resources: Characterised by High ethical value system. Key values upheld in their work included independence, family, mutual respect, empathy and community. ISR players worked as a 'collective of independents'.
	<ul style="list-style-type: none"> ▪ Procurement: Characterised by collective procurement where ISR players pooled their resources in order to buy together.
	<ul style="list-style-type: none"> ▪ Research and Product Development: Characterised by a continuous learning environment; learning from 'trial and error'; skills development outside a formal education system; adapting knowledge from formal school systems to carry out their work; collective knowledge base accessible to anyone in both informal and formal levels with no payment required.

Table 5: Primary activities in the ISR value chain – For Ngozi Mine (Dumpsite) and Community based ISR players



<ul style="list-style-type: none"> ▪ New entrants at entry level largely dealt in one waste stream but gradually expanded to harvest others following advice from their peers. ▪ Collected recyclable waste in 50kg sacks. ISR players' collections were largely high-volume but low-weight due to a lack of compacting or baling equipment during waste harvesting. ▪ ISR waste pickers sometimes sold their harvested waste to ISR up-cyclers involved in informal parallel industries e.g. re-bottling of methylated spirit, perfume and drinking water. ▪ No formal sale agreements existed at this stage. ISR players sold to whoever approached them with cash or other ready proposal of payment whether in monetary or barter trade form. ▪ Thirty-three (35%) of ISR players at this stage in Ngozi mine were women – representing eighty-three percent (83%) of female ISR players who participated in this research. Gender inequality prevailed across the ISR value chain as this research found that women were often at lower levels of the value chain where there was the least economic value for their effort. 	<p>players largely operated in open spaces. Boundaries between different ISR players' were formed by natural shrubs or by barricades of waste collected by each ISR player. Through this ISR players employed the most economic use of work spaces as no one took up more space than what they needed.</p> <ul style="list-style-type: none"> ▪ No value exchange took place between ISR players and the formal recycling companies as these companies often required supplied waste to have gone through minimum processing before being sold. ▪ ISR players sometimes sold harvested waste to ISR processors, recyclers and up-cyclers involved in informal parallel industries e.g. re-bottling of methylated spirit, perfume and drinking water. 	<p>value creation.</p> <ul style="list-style-type: none"> ▪ ISR players operated mainly without machinery or equipment but adapted different objects in order to carry out their work. For example, a steel pole was used to crush aluminium cans. With no essential equipment including scales or knowledge of prevailing market prices, these ISR players did not know the value of their collections until the buyer told them at the point of value exchange or sale. 	<p>companies. For reasons attributed to the effects of social exclusionary experiences of ISR players especially those working from the dumpsite are, these ISR players did not take proactive strides to approach formal markets in search for buyers. These ISR players preferred to wait for formal buyers to approach them instead.</p> <ul style="list-style-type: none"> ▪ ISR players had no fixed buyer. They sold to whichever buyer (formal recycling company or informal and semi-formal waste entrepreneurs or middlemen) approached them first and with favourable payment terms. ▪ Due to a lack of equipment (scales) and knowledge on market prices, these ISR players did not know weight and value of the recyclable waste they collected until the buyer weighed and informed them of the current buying price. ▪ At this point, buyers included semi-formal middlemen (waste entrepreneurs) as well as formal recycling companies. Informal to formal supply occurred at this stage as ISR players would have gone through processing activities in order to meet minimum value requirements of formal buyers e.g. grading, peeling labels and packing in tonne bags. ▪ These ISR players also sold to ISR recyclers who recycled waste materials into semi-finished and finished products. For example, ISR aluminium waste pickers sometimes sold their harvested waste to other ISR players who recycled this aluminium raw waste into aluminium ingots. These 'ingots' were then sold to ISR players who make three-legged pots. ▪ These ISR players preferred to sell as individuals, but if buyers wanted larger
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				<p>quantities ISR players came together to sell as a network of 'collective independents'.</p> <ul style="list-style-type: none"> ▪ These ISR players felt that buying prices never reflected the amount of effort involved in their work. This was due to a mis-match in valuing systems between informal and formal players during trade and value exchange. ▪ Upon collection, buyers weighed materials and informed ISR suppliers of the weight and current market price. ▪ Their preferred payment mode was cash. However, forty-nine percent (49%) of ISR players based at the dumpsite did not have birth certificates or national IDs and therefore could not open bank or mobile money accounts or access the most inclusive banking platforms available.
ISR community based players	<ul style="list-style-type: none"> ▪ These ISR players walked, in pairs or groups of three, around residential suburbs and the CBD in search for recyclable waste streams. ▪ Mainly dealt in one recyclable waste stream. Introduction to other markets was limited due to less exposure to opportunities in comparison to informal players operating from the dumpsite. ▪ Collected in 50kg sacks. Contents were high volume but low weight due to lack of compacting or baling equipment during harvesting. ▪ This research found that a female ISR players were the dominant gender in community 	<ul style="list-style-type: none"> ▪ They travelled on foot from various harvesting sites around residential areas and in the CBD to their homes. ▪ They used their homes as work spaces. ▪ The distance between harvesting sites and their homes was quite long and as they had no transport, these ISR players often could only carry small high-volume but low-weight loads at a time. For example, women harvesters described how they carried three (3) 50kg sack-full of HD plastics, from harvesting sites to their work spaces mainly on their heads. ▪ Collections were bulky but low in weight as a result of a lack of 	<ul style="list-style-type: none"> ▪ ISR players undertook various activities to prepare the harvested materials for sale including peeling, cutting, crushing, grading waste by type. ▪ Inefficiencies in processing techniques existed due to limited knowledge on processing techniques. ▪ The collective knowledge, research and development within this group was limited and stagnant. This was partly due to the small nature of the social support structure these groups operated under, in comparison to ISR players based at the dumpsite. Learning and adoption of new processing techniques took longer for these community groups in comparison to networks of ISR players based at the dumpsite. ▪ Semi-formal supply agreements existed at this stage between ISR community groups and formal buying recycling companies. Normally these ISR community groups sold to one buyer whom they would have communicated with to establish minimum standards required. 	<ul style="list-style-type: none"> ▪ This was when sale took place between the ISR groups and formal buying recycling companies. ▪ If buyers delayed to collect the accumulated waste, the City Council could confiscate the materials as they posed public health concerns e.g. became breeding sites for rats. ▪ Due to a lack of equipment (scales) and knowledge on market prices, these ISR players did not know weight and value of the recyclable waste they collected until the buyer weighed and informed them of the current buying price. ▪ These ISR players felt that buying prices never reflected the amount of effort involved in their work. This was due to a mis-match in valuing systems between informal and formal players during trade and value exchange. ISR players determined value based on volume and effort involved to accumulate that volume. For formal sector, value was determined by the actual weight and quality of the waste.

	based ISR activity.	compacting and baling equipment. For example, a 50kg full sack was estimated to weigh 5kg. ▪ These ISR players rarely sold to other ISR players or those involved in parallel industries.	▪ ISR community groups normally had no knowledge of prevailing buying prices. They were informed of the current buying prices at the point of sale by formal buying recycling companies with whom they had semi-formal to formal supply agreements.	▪ Buyers collected materials from these ISR groups mostly without weighing. Collected waste was only weighed at the premises of the buyer sometimes in the absence of ISR players. This led to transparency issues.
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Drawing from the above value chain map (tables 4 and 5), this research found that ISR player business models were characterised by the following:

a) Harmonised rationales for entry with gender-specific variations

This particular section looks at reasons why informal sector recycling players (ISR) entered their line of work. The section groups individual rationales in order to provide generalised group perspectives. This gives insights into what factors drove ISR players to engage in their work and how these factors in turn shaped the business models they used.

Gurtoo and Williams (2009) and the structuralist school of thought (Carr and Chen, 2001), wrote how informal activities were largely designed to serve the competitiveness of large scale, formal players. This research found this assertion to be partially true for players within the informal recycling value chain. ISR activities were found to serve the competitiveness of large scale formal players, of informal recycling value chains and that of parallel industries including re-bottling of drinking water, methylated spirit amongst various other products.

The top three reasons given for entry in the sector ranged from identification of income generation opportunity at forty-nine percent (49%), unemployment at twenty-one percent (21%) and a need to survive at eighteen percent (18%). Some ISR players stated that their suffering led them to engage in informal sector recycling and that their work was “*better than doing nothing.*” These players faced challenges in accessing alternative employment or income generation opportunities and implied that entry into the sector was motivated by a desperate attempt at survival. To further emphasize this finding, participants stated that what they did for a living was “*better than someone who breaks into people’s houses to steal.*”

One participant, who was among the minority that associated their rationale for entry with self-employment, said they saw this as an accessible opportunity to be self-employed in that *“It’s a way of working for myself without needing start-up capital. If I wanted to do vending I need capital to buy what I will sell but here I can just start working without capital.”*

Zinyengere (2014) stated that entrepreneurs ventured into informal activities due to economic opportunity. Although a majority of ISR players stated income generation opportunity as a motivating factor for their entry, to conclude that these individuals were solely motivated by an entrepreneurial spirit would not be entirely correct. As the findings from the focus group discussions highlighted above revealed, the rationale for entry was a desperate attempt at a form of independent survival through engaging in an income generation opportunity which had little to no entry requirements and barriers.

This research found ISR players to exhibit entrepreneurship characteristics beyond traditional entrepreneurs motivated by profit, and social entrepreneurs motivated by meeting social needs in a financially sustainable manner. ISR players’ motivation to engage in this work was found to be strongly associated with economic necessity and a need to survive. As ISR players engaged in this work, as a last resort, they connected with each other over their shared experiences of unemployment and lack of accessible alternative means to survive. These shared experiences over time bred a collective identity of cooperation and interdependence amongst small groups of ISR players within a particular geographic site.

The repeated theme around ISR work being ‘a desperate attempt at survival’ was stronger amongst female ISR players. One female waste harvester stated that *“We do what we can to survive. We are widows, we have no money, we have no husbands. The government doesn’t regard us. We are not known or supported anywhere. So we saw it better to work for ourselves instead of bothering our economically active neighbours by begging for food and money.”* Traditionally, the Bulawayo City Council (BCC) did not allow women to engage in waste harvesting activities at the dumpsite. According to the ISR players, this was due to concerns that as the culturally ascribed physically weaker sex, women would be more susceptible to accidents when rummaging through trash in the dumpsite alongside male ISR players, the BCC refuse trucks and other heavy machinery. Empathising with their daily struggles to feed their families, the BCC gradually relaxed these exclusionary laws and allowed women to join their husbands and other men in harvesting for recyclable waste for sale. Detailing her motivation another middle-aged woman said *“At first we watched while*

others worked. But Council saw that women living here were suffering as men spent their income on alcohol while our children slept on empty stomachs. Our children were also picking waste and eating it because of hunger. As women we saw it better to be brave and join others in picking waste so that we can earn money to feed our children.” To emphasize on this maternal motivation another female ISR player stated that, “...at night when our hungry children cry, they call out to us their mothers not their fathers.”

This research found that women’s motivations for entry varied from their male counterparts, as did how they worked and earned. Female ISR players, both those working from the dumpsite and those working within communities, either worked to supplement earnings by their spouses or as sole bread winners to meet primary daily needs of their families. Female ISR players’ business models were found to be more survival oriented, with an acutely defined hand-to-mouth focus, aimed at meeting basic daily needs. The male ISR player business models were centred on meeting wider socio-economic needs including food, paying rent and sending children to school. From focus group discussions this research found that when selling, female ISR players preferred immediate or short term payment terms, regardless of the amount, so that they could buy food to feed their children. Male ISR players were open to longer term payment terms. At times, male ISR players used their income for social purposes like drinking to help distract themselves from their life problems. This research found that the business of female ISR players was intricately tied to their personal lives. Whereas the male ISR players could separate their business from their daily responsibilities and distract themselves from life’s problems by using their income for social purposes like drinking beer, women ISR players were found to not have this luxury.

b) Variegated entry strategies determined by worksite location

After looking at why informal sector recycling (ISR) players entered this line of work, this section considers what strategies they employed when starting this line of work. Therefore, the section unpacks their entry strategies which in turn define the ISR business models.

The research found that although ISR players’ rationales for why they entered this line of work were similar across different geographic sites, for example between Ngozi mine and community based players, how they entered their line of work differed. The difference was noted based on geographic area of operation and level in the value chain. Community based groupings of ISR players firstly secured the market by verifying the opportunity and

approaching the formal recycling buyer directly to confirm minimum value requirements. Community groups got access to formal recycling companies through exposure to advertisements, which the socially reserved Ngozi mine based ISR players did not have as much exposure to. After verifying the opportunity and confirming minimum value specifications, community based ISR players set semi-formal supply agreements with formal companies who in most cases were their sole buyer.

Ngozi mine based individual ISR players at the bottom of the value chain were found to have entered this sector by going to the dumpsite and seeing how others worked and earned money. A majority of ISR players operating from the dumpsite area revealed that they were exposed to the opportunity by social acquaintances who were already working in the sector. A few stated that after facing unemployment they came to the dumpsite and were initiated to the work by players they encountered there. Following a series of visits and exposure to the work and the way of life of other ISR players based at Ngozi mine, they then joined with no pre-set buyer-seller arrangements with recycling companies. Neither segments of ISR players those based in communities nor those based in Ngozi mine, had access to working capital or mainstream equipment except for everyday tools such as kitchen knives. ISR players also adapted these everyday utensils to peel and cut the harvested waste which they processed for onward sale.

c) Increased barriers higher up the value chain – a limitation to growth

The previous sections outlined rationales for entry and how informal sector recycling (ISR) players in different geographic work sites entered their line of work. This section looks at what entry barriers existed and how these shaped ISR business models.

ISR business models were characterised by low entry barriers that increased as one climbed higher up the value chain. At waste harvesting level (stage one in the informal sector recycling value chain – see table 4 and 5), especially for those operating from the dumpsite area, almost no traditional entry barriers existed. According to ISR players “*there is no one who tells anyone to pick or don’t pick as we all understand each other’s suffering.*” Furthermore, ISR players described how entry into waste harvesting required no start-up capital as all an individual needed to do was to find out from players in existing networks which waste streams to collect and how to sell.

Community based ISR waste harvesters on the other hand noted that although they did not need start-up capital to start collecting and selling, they sometimes needed capital to follow up payments. This was because buying recycling companies weighed the waste supplied by ISR community groups at their premises, but did not provide transport to these community based ISR players to witness this essential part of the transaction. Therefore, community based ISR players often had to use their own resources to travel to the buying recycling company premises in order to obtain a payment invoice.

Most players attributed the low entry barrier-nature of income opportunities at the bottom of the value chain to a collective identity developed through shared experiences of suffering and social exclusion. One participant stated that *“when we are picking others will be looking at what you are doing and they start doing it themselves. We don’t discourage anyone because we are all suffering.”* ISR players were found to have a deep-rooted collective value system encompassing - transparency, mutual respect, family and community as their way of life and business conduct. One participant advised that *“Entry is free and open to everyone. But we want mutual-respect, we don’t want foul language. People here know that each person is working for their family and not for another person.”*

This research found that ISR player shared experiences coupled with the collective value system governed entry into the sector. Although no traditional entry barriers existed such as a need for start-up capital or skills, entry into the sector required one to tap into the existing collective identity of interdependence. This requirement became a differentiating criterion for ISR players. For example, although ISR players collaborated with individual waste entrepreneurs who did not necessarily relate to the collective identity of exclusion and suffering, these waste entrepreneurs were not part of established ISR player networks and were referred to by both formal and informal players as a more advanced type of ISR player.

As ISR players graduated from waste harvester level to processing stages in the value chain, minimal entry barriers arose. For example, ISR players who were involved in processing aluminium cans into aluminium ingots stated that one needed start-up capital to buy resources needed for production (materials for blast furnace and aluminium cans from waste harvesters). Besides working capital, one would have to master the informal processing techniques used by the ISR players in order to process at a level of quality and standard desired by the market. One aluminium can processor stated that it took him and his group of co-workers over six (6) years of trial and error to perfect their technique. This could be a sign

that vertical growth in the ISR value chain was prolonged. As ISR players graduated to more technical levels of the value chain, their skills development was found to take place over protracted periods of informal learning - adapting formal techniques and adopting better ways of attaining the desired quality. Community groups' growth onto higher levels of the value chain was contrary to the above findings of ISR players based at the dumpsite. Possibly due to fewer members in community based ISR group networks, in comparison to the vast number of ISR players based at Ngozi mine, community based ISR players were not as connected to opportunities to diversify or grow in their work. As a result, community based ISR groups rarely grew to higher levels of the value chain.

d) A 'rat race' attempt at survival and independence

Having reviewed limitations and entry barriers encountered by informal sector recycling (ISR) entrants in their attempts to graduate onto higher value chain stages, the following paragraphs look into how ISR players viewed their work and sector. Insights into how ISR players perceived their work and sector helped to understand their business model orientation as an expression of these perceptions.

ISR players' perceptions regarding their line of work were largely homogenous across the two geographic sites covered by this research – Ngozi mine (Bulawayo city dumpsite) and community based ISR players (Njube and Mpopoma high density areas). ISR players in both geographic sites recognised the poor conditions they worked under which violated basic safety, environment and health standards. However, due to a need to survive and to remain independent amid dismal prospects of alternative livelihood options, they felt they had no other choice but to continue in their line of work. This was contrary to findings from interviews with representatives of formal recycling companies who felt that ISR players operated in oblivion to their environment and the safety and health risks their work exposed them to. One male ISR player stated that the work, although unsafe, was a form of distraction from life's problems and even though the money was too little to develop themselves, it had become instinct. Another female ISR player who participated in focus group discussions highlighted that they had become so socialised to their environment, the nature and risks of their work such that they could not see any other alternative, accessible means of income generation.

To external, formal stakeholders, ISR players appeared not to care about their working conditions and the lack of improvement in the quality of their lives. However, this research found that in contrast ISR players' seemingly relaxed approach to their work was as a result of having reached a level of acceptance of their situation and the 'rat race' that they found themselves in. Besides the health and safety risks associated with their work, ISR players were consciously aware of the poverty trap that they operated in. With monthly income levels between three to eighty American dollars (US\$3 to US\$80) on average, ISR players felt that their income was not enough to escape poverty. They therefore operated with basic survival goals – to earn what was necessary to meet their basic, daily needs.

Building upon the above, this research found that ISR player business models were not necessarily profit oriented. The focus of their business models was not about balancing the financials of their trade to ensure they made a profit. The focus of ISR business models was towards a rat race attempt at survival and independence in which the money was neither sufficient to develop nor to pull themselves out of the abyss of poverty. This finding was expressed through the remarks by a male ISR player who stated that *"I highly regard what I do as I live off of it. I can't steal and I have never stolen. I went to school but there are no jobs. I saw that I can survive from this. At least I can buy bread like other people and feed my kids. To us it is better, but not to say we are happy."*

ISR players worked for whatever they could earn with no targets and continuously adjusted the quality of their lives to match their meagre earnings. For example, some ISR players had moved from high density residential premises to live at the dumpsite where they ate what they could get from edible food waste harvested from the dumpsite. In some incidents, their children stopped attending school due to insufficient income to pay school fees. The majority of ISR players who fit this description were found at lower levels of the value chain at waste harvesting or resource reclamation stage, and at the city dumpsite. This research found that this type of ISR player was likely to be in this sector for the long term with some of them having been involved in this line of work for up to thirty (30) years with no visible improvement to the quality of their lives. Instead the quality of their lives appeared to only worsen as these ISR players continued to adjust the quality of their lives to match their inconsistent earnings.

Another type of ISR business model uncovered by this research revealed a greater entrepreneurial flair beyond a desperate attempt at survival. Despite the absence of records,

these ISR business models were more driven by a sense of independence to meet the individual ISR player's basic needs (food, shelter, education for children) through their work. In contrast to formal economy accounting systems, the profitability of these ISR player business models was measured by how well their basic needs were met. For this reason they expressed pride over their work often comparing it to less honourable options such as stealing and begging. Remarks by a male ISR player that *"I highly regard my work as my family lives off it"* emphasised the level of pride and independence they derived from their line of work.

ISR players who ran the above described business models attached a sense of dignity to their work. A number of these ISR players felt that they were creating value for government and recycling companies. However, they felt they were not getting a comparable value in return for their effort. In line with views expressed by a representative from a formal recycling company (personal communication, 5 January, 2017), this research found that over eighty percent (80%) of ISR players did not see their work as a business. Both types of ISR players mentioned in previous paragraphs above, revealed that they did not regard their work as a business due to the conviction that a normal business involved some form of equitable value exchange. ISR players said they did not see the value they were getting in return for the value (hard work and effort in daunting working conditions) they were providing to recycling businesses, communities and the government. One elderly female informal player said, *"when I look at my work I feel very proud because from what I pick companies employ people to make different products from it. Through my work I help our government and my country because I secure jobs for people manufacturing these products. But no one sees how important I am, here at the bottom (of the recycling value chain)."*

Surprisingly, although a number of ISR players made clear connections between the value of their work to recycling businesses and communities, very few ISR players linked their work to the socio-environmental benefits. Only one participant correlated the potential positive impacts of his harvesting and processing activities to the environment by stating that *"I have read a book about other continents that have dug up all their natural resources. They are left with nothing. However in Africa we are lucky as we still have some natural resources, but even these are being dug up. This is what has made recycling important and relevant – so that a resource which was used can be used for another purpose. It's a good idea for us to be involved in this (ISR activity)."*

The above ISR player perceptions of their work, the value they felt they contributed to society and the mis-match in value exchange also emerged during observations made during the micro ethnographic part of this research. The researcher experienced how ISR business models employed subjective methods in determining the value of their work whereas in contrast, semi-formal and formal buyers used objective methods. For example, during informal to formal sale transactions, formal and semi-formal buyers determined the buying price based on quality and quantity (weight in kgs) of supplied waste viz-a-viz global market prices. ISR players, having no access to this trade information relied on semi-formal middlemen and formal buying recycling companies to give them this information. During trade transactions between ISR players, the value of the waste was determined subjectively with considerations around effort involved and amount of time it would have taken to accumulate that particular load.

Although for the formal sector, business was just business; for ISR players business was beyond mere business. This research found that when ISR players bought from each other, they engaged in the transaction in a manner which mixed the informal and formal value exchange ways. There was greater space for negotiation during informal to informal transactions as ISR players empathised with each other. Informal processors who bought raw materials from informal waste harvesters mentioned how before they took waste from a fellow ISR player, they considered that the individual was most likely engaging in this work for survival. ISR players therefore stated that they only made offers which they felt were 'fair' and which they could fulfil. Therefore ISR business models were found to employ a humanistic approach to conducting business where they recognised each other's social experiences beyond their market economy and political activities.

e) Income generation orientation towards survival and independence not profitability

The previous section discussed how informal sector recycling (ISR) business models were not entirely profit orientated, but focused rather on independence and survival. The below section explores drivers of ISR income generation with an aim to understand how these shape resultant ISR business models.

Figure 7 – Informal sector recycling (ISR) player estimated monthly income levels (%)

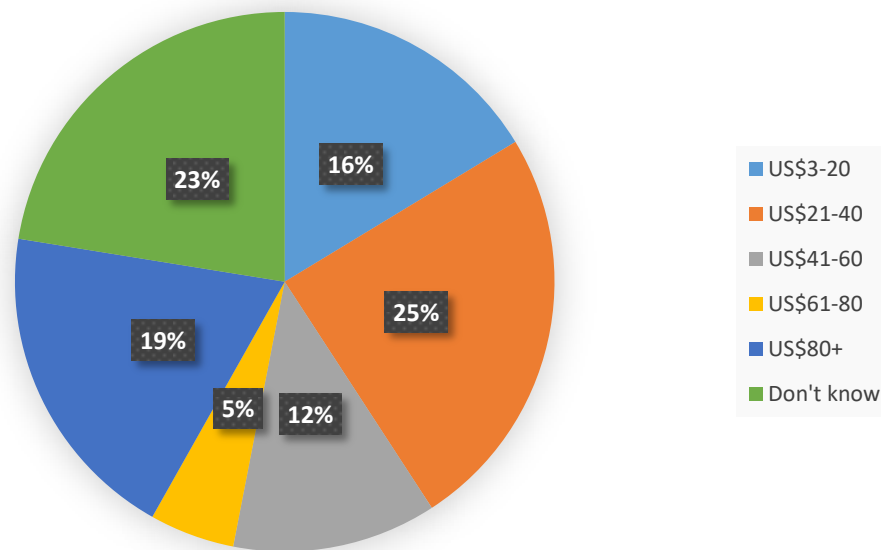


Figure seven (7) above illustrates the estimated monthly income levels of ISR players provided during key informant interviews. The income levels are based on estimations provided by the ISR players as they did not maintain any form of record keeping. As ISR players were found to have varying sale dates, a monthly estimation was used to envelope these sale dates. The research could not ascertain production capabilities of ISR players as they did not have the necessary equipment to weigh their collections. Where ISR players lacked in formal equipment such as scales to weigh their collections, this research found that they resorted to estimations based on their experience in the sector.

As none of the ISR research participants kept records of their income levels, twenty-three percent (23%) of ISR players could not provide any estimates of their average monthly income levels. Based on estimations from the remaining seventy-seven percent (77%), the research was able to establish that monthly income levels averaged from as low as three to eighty American dollars (US\$3 to +US\$80). The minimum of three American dollars (US\$3) per month was far below the global extreme poverty benchmark of one American dollar and twenty-five cents (US\$1.25) per day set under the sustainable development goals (UNDP, 2016). Besides the lack of record keeping, ISR players stated that the combination of meagre income earnings and pressing daily needs to provide for their families meant that they lived “*hand to mouth*.” This finding echoed concerns by Medina (2008) that the income levels of informal sector players were normally too little to escape poverty.

The lack of scales to weigh materials accurately and the lack of financial record keeping on how much their income generation activities profited them by not keeping any formal records indicated that profit was not the driver of ISR business models. Earlier sections of these research findings expressed repeated themes of ISR business models being a form of rat race in which the focus was not profit, but a need to provide for essential needs of their families and to be independent.

The above research findings would explain concerns by formal companies (personal communication, 17 November, 2016; 5 January, 2017) and government stakeholders (personal communication, 23 January, 2017; 31 January, 2017) that even when ISR players made one hundred to four hundred American dollars (US\$100 to US\$400) on one sale, they never seemed to graduate from poverty. Furthermore, this explained the expansive variations in duration in sector found among ISR players from less than one (1) day to thirty (30) years. This variation in length of experience in the sector is congruent with findings by Brand (1986).

Although formal businesses monitored their business model performance according to various profit centred performance metrics used as a benchmark to drive and monitor progress, this research found that ISR business models were focused on answering the primary question of – “*can what I make meet my family’s needs without depending on anyone?*” Survival and independence were therefore found to be the benchmark and driver of their business models. This research found that even as ISR players reduced the quality of their lives to match their meagre earnings, when they experienced a boom in business they would use the income to improve the quality of life for their families. This would leave little room for investment in growth as their lifestyle patterns were continuously adjusted to match their earnings.

f) Skills development outside the formal learning system

Informal sector recycling (ISR) is evidently a line of work that is not without health and safety risks. Having analysed how ISR business models are shaped by the motive behind income generation, the following paragraphs explore how ISR players communicate rules of the trade, safety precautions, as well as how they learn techniques and best practices and cascade these lessons amongst each other.

Contrary to formal sector and government perspectives that ISR business models operate oblivious of safety and health risks associated with their work and that ISR business models have no procedures (personal communication, 23 January, 2017; 10 January, 2017), one ISR research participant stated that *“There are precautions one must take when processing/smelting. For example, before smelting we compress and puncture cans and deodorant bottles. If you don’t flatten these cans before melting them, they can explode and the hot porridge will burn you. We put a bin on top (of the blast furnace) for safety so that the porridge doesn’t burn us.”* This not only demonstrates awareness of the risks in their line of work, but also processes and procedures to avert or minimise safety and health risks in a way that is in line with their resource capabilities.

In analysing how ISR players developed these safety processes and cascaded lessons this research found that as ISR players worked, they taught each other the rules of the trade and openly demonstrated to new entrants *“how the business is run.”* As one participant mentioned, *“We have a buying price that we use when buying from pickers. If someone (an ISR entrant) comes with an unfairly low price and takes all the supply we tell them they are affecting our business. They’ll be compelled to adjust their price to match ours. Even the buyers who come from Harare, they first ask us how we buy and sell and at what price.”* This research therefore found that at an informal level, entrepreneurial activity was characterised by a form of co-existence governed by principles of ‘Ubuntu’ – ‘I am because you are’. During rapid ethnographic exercises the researcher also observed how in all their business activities and decisions ISR players worked cognisant of how their actions affected other informal players. Having a deep recognition of their mutual dependence and interconnectedness ISR players worked openly, developing knowledge and drawing lessons from their experiences which they then shared with existing players, new entrants as well as formal companies outside a formal learning system.

Describing how this learning took place, one male aluminium can processor expressed that, *“When we started off, it took a lot of time to perfect our smelting technique. We did a lot of research, trial and error.”* Echoing findings by Brand (1986), this further showed how learning amongst ISR players took place outside formal school systems and was largely by exploration and demonstration. Furthermore, this research found that at times ISR players adapted knowledge from formal learning systems to suit their context and to carry out their work. For example, aluminium can processors acknowledged how some of their group

members had built their first version of the blast furnace by adapting scientific models which they had learnt while in high school.

Over the years as veteran ISR players inducted new entrants, the sector became acknowledged as a significant knowledge base by both informal and formal stakeholders (personal communication, 5 January, 2017). This informal learning system had become so strong that both formal and informal players tapped into it for access to trade information, contacts and skills. One formal recycling company senior operations manager acknowledged that his company obtained a lot of industry information from the dumpsite (personal communication, 5 January, 2017). However, the sector faced high risks of intellectual property theft. One ISR focus group participant expressed that “*When people come to ask us we are now becoming scared to share our knowledge because people steal it. Some people come pretending to be (University) students and yet they wanted to steal our business ideas.*”

The above narrative shows how knowledge in informal spaces was largely shared for the purposes of furthering or supporting each other’s income generation activities. In drawing on their collective experiences of success and failure, this research found that learning among ISR players was not just about sharing information. ISR players approached learning and sale discussions as an opportunity for authentic interactions between themselves and any semi-formal or formal players who tapped into the informal sector’s collective wealth of knowledge and life experiences. Although in formal business the knowledge drawn from informal players was used to drive business and profit, at an informal level knowledge was used to support livelihoods of fellow ISR players. Interaction during sale was used to build relationships.

g) Flexible work arrangements characterised by a culture of adaptive, collective independence

Following an analysis of how informal sector recycling (ISR) players learnt and cascaded lessons amongst themselves, this section looks into the working arrangements of these informal players.

This research found a responsive sense of flexibility in ISR business models. ISR players were able to switch working arrangements from groups to individual-based depending on the level of work. A young male waste processor explained: “*I work alone but sometimes when I get a big order I call others who are in the same line of work to help me. We then share the*

money.” As no records were kept in ISR businesses, determining the monetary value of individual effort of members within a particular group was near impossible. As a result, most ISR players preferred to work as individuals so that they could see “*how much they can make without having to share with others.*” ISR player work arrangements, and in turn their business models, were found to be responsive with a sense of flexibility characterised by a working culture of adaptive, collective independence to suit different working situations and needs.

ISR players’ work arrangements, particularly for ISR players based at the dumpsite, were found to be organised around irregular sale dates which were determined by buyers. Key repeated themes around the structure of ISR player sales were that they “*sold to whoever had money*” at a particular time. Even when informal sale agreements existed between ISR players and a particular company or middleman or ISR processor, if a new buyer with ready cash approached them, they preferred to sell. ISR players therefore harvested and stored their recyclable waste streams waiting for any arising opportunity to sell.

One male ISR player explained that “*one local manufacturing company could be our greatest supplier of rubber, but there are already other people with more money than us who are collecting their supply – ‘amakhiwa’ (‘whites’ - was used in reference to people of perceived higher social ranking).*” Therefore, this research found that Ngozi mine (dumpsite) based ISR players neither approached commercial waste generators (normally formal manufacturing companies) to initiate supply arrangements nor did ISR players approach formal recycling companies when they had enough harvested waste to sell due to the costs and anticipated social exclusion barriers in informal to formal mainstream economic transactions.

Beyond the above, this research found that on a day to day basis a significant number of ISR players worked as individuals who shared work spaces, tools and tasks. This informal manner of working often led to confusion when dealing with formal recycling companies. From formal recycling company perspective, it made more business sense to formalise these perceived ISR clusters or groups in order to allow collective supply and payments instead of costly individual transactions (personal communication, 5 January, 2017). However, from the ISR player perspective ISR business models were characterised by a responsive working culture of adaptive ‘collective independence’. One elderly woman stated that “*we collect together, but sell as individuals.*” Although they shared resources, work spaces and worked

together, there was a strong urge for them to feel independent and that *“each man is working for his family and not for another man.”*

The above illustrates how the adaptive business models of ISR players were found to be centred on a need to meet the survival needs of ISR players in a manner that maintained their independence. Through this culture of adaptive, collective independence, ISR players were able to switch from working as individuals to ensure their families were fed each day, and to aggregate into groups to meet current demand or solve arising challenges. For example, one participant highlighted that *“As we pick we will be talking. And we discussed that the buyers trick us. They change prices as they please and leave us stranded. So we have been discussing about setting our own standard price instead of just accepting whatever price they come with.”*

This research also found that ISR players not only formed groups to meet current demand and tackle arising challenges, but sometimes these group based working arrangements were employment-based. In such cases, ISR players would sometimes employ other people to help them to complete a particular task *“especially if there is a big order and if money for payment is available.”* In these short-term, informal employment arrangements payment was based on overall effort in comparison to quality of quantity (weight) based payments at formal recycling level. For example, one informal sector processor said, *“To peel, an average of US\$40 is paid to the whole group of helpers.”* This player neither made mention of the number of people in the group nor how many kilograms they had to peel in order to be paid the forty American dollars (US\$40.00).

These flexible work arrangements and culture of adaptive, collective independence which allowed ISR players to change from working as individuals to working in groups baffled formal recycling companies. Formal recycling companies found it irrational that ISR players did not see the value in formalising these groupings into cooperatives in order to access mainstream economic opportunities and services. This research found that maintaining their independence was an important element in ISR business models – an element which ISR players felt they lost when working in groups. Therefore, ISR player groupings tended to be short term oriented, meeting immediate needs and rarely extending to become long term forms of social organisation.

h) Transaction-specific production, sale and payment approaches

The previous section explained findings around informal sector recycling (ISR) work arrangements and how these shape the business models ISR players employed. The following section gives further detail on how ISR players produced, sold and got paid.

ISR players engaged in various work arrangements and trade transactions amongst themselves across the value chain and also with formal sector players. In terms of formal-to-informal trade transactions this research found that these sometimes occurred through networks as proposed by Chen (2012). For ISR players under study by this research, these networks comprised of ISR player clusters governed by their working culture of adaptive, collective independence. As explained by Chen (2012), in these arrangements individual ISR players engaged with formal business on a string of transactions, the terms and conditions of which were determined by formal business and the rules of the collective network of individual ISR players.

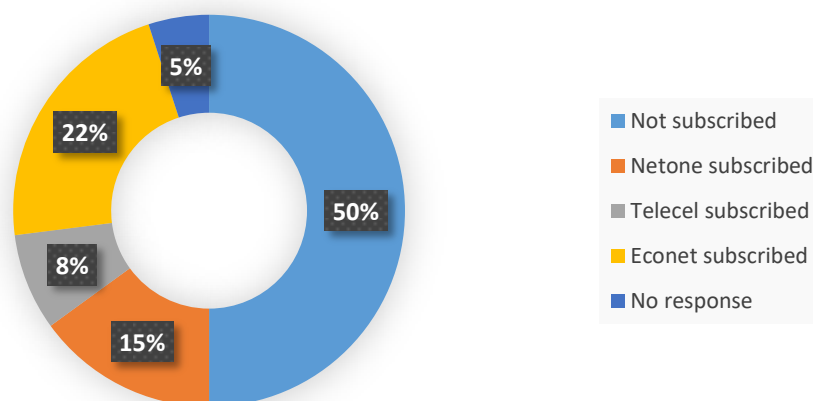
As explained in previous sections, ISR players were found to be involved in supply-driven production motivated by a need to meet their basic needs. Although how they got paid was found to be largely homogenous, how they produced for sale differed depending on whether they were based in communities or the dumpsite and their level in the value chain. For example, community based ISR players normally had one buyer whom they dealt with directly without the involvement of middlemen. Community based ISR players usually harvested one waste stream with an anticipated date at which the buyer will make the collection. In contrast, waste harvesters based at the dumpsite did not have a fixed buyer, but sold to whoever approached them with ready payment or favourable payment terms. Furthermore, ISR players based at the dumpsite normally harvested more than one waste type, learning from their fellow informal players, in anticipation that one or more buyers may approach them at any time. Most processors based in the dumpsite produced what they felt they could be able to sell and did not produce extra products for display due to working capital and storage limitations.

As ISR players, both those based at the dumpsite and in communities, had no infrastructure and equipment (including scales) save for adapted indigenous resources which they used to carry out their work, the weight and monetary value of their production effort was only known during sale when buyers graded and weighed the supplied materials. This research was able to establish that the lack of formal infrastructure and equipment did not translate to a

total lack of attention to detail and/or measurement. The research established that ISR players used informal measuring methods based on experience. For example one plastic artist indicated that, *“I have never weighed, but I pick approximately fifteen (15) bales of plastic a month. Three (3) bales make an elephant.”* Over time, these informal measuring methods were immortalised and passed on to other informal players through informal learning methods.

In terms of how they sold, this research found that a majority of ISR players did not look for or approach buyers, but waited for buyers to approach them. For example, a male aluminium processor stated that *“sometimes buyers come to buy from us here eRenkini (open market place).”* As no buying schedule or fixed marketplace existed, a majority of ISR players did not always know when next buyers would come.

Figure 8 – Mobile network subscription for dumpsite and community based ISR players (%)



In terms of how they got paid, ISR players indicated that although they preferred cash payments, they also accepted payments through mobile money platforms. The preference for mobile based payments was found to be in contrast with the fifty percent (50%) of dumpsite based ISR players found to not be subscribed to any mobile network operator (see figure 8 above). The research found that the majority of ISR players based at the dumpsite without mobile phones often used the mobile money platforms of their fellow work mates in order to receive payment. In contrast, all community based ISR players were found to be registered with at least one mobile network operator. The most popular network was Econet with twenty-two percent (22%) of informal participants. Therefore, the most popular mobile payment platform used was Ecocash. However, discussions with informal players revealed the following complications arising from mobile platform based payments:

- As depicted by the pie chart in figure 8 above, fifty percent (50%) of ISR players were not registered with any mobile network. This was found to be largely due to lack of national identification documents which were required for registration, and/or lack of funds to either buy a phone or register with a particular network. This research found that almost fifty percent (49%) of ISR players working from the dumpsite had no birth certificates or national identity (ID) documents. Although this meant that a majority of ISR players preferred cash based payments, it did not impede mobile money based platforms as ISR players would use the mobile numbers of their fellow workmates.
- The percentage distribution of players across mobile networks was not representative of actual usage of these mobile networks as payment platforms. A number of ISR players indicated that at the request of buyers, they sometimes sold in groups and split the income. In these arrangements they often used one ISR player's mobile number through which they could receive payments. Group based payments were not preferred amongst ISR players as one male participant explained, *“there are no addresses here (at the dumpsite) from which you can track someone. Therefore if someone runs away with our money we have no way of locating them.”*

Besides cash and mobile platform based payments, ISR players indicated that they sometimes engaged in barter trade where they exchanged waste for everyday items like sugar or bathing soap. Only ISR players based at the dumpsite, Ngozi mine, expressed extensive experience in barter trade arrangements in comparison to the community based players.

This research established that there was great flexibility in ISR trade arrangements, and even more so amongst ISR players based at the dumpsite. ISR players were found to not have fixed production, marketing or payment systems, but rather they continuously evolved their systems to respond to the requirements of each transaction. The acceptance of barter trade as mode of payment further supports the findings of this research that ISR business models were not driven by financial profit as with business models in the formal sector. Rather, ISR players were driven into this work and sector out of a need to survive and maintain their independence. ISR players' willingness to trade their harvested and/or processed waste for day-to-day consumer products was evidence of this.

13.1.2 Emerging patterns of informal sector recycling (ISR) business models

Following a review of informal sector recycling (ISR) business model characteristics using the value chain approach, this section highlights the emerging key patterns. The section outlines the fundamental mis-matches which shape and differentiate ISR business models from formal players in the recycling industry.

a) Focus is on survival and not profit

ISR business models were found to be focused on survival and not profit. This often meant that ISR business models were short-sighted with an aim to meet immediate survival needs. Although this short-sighted nature made ISR business models highly responsive and adaptive in tackling arising daily challenges, this research found that their long-term resilience would be at risk if they graduated into mainstream, formal economic spaces.

Furthermore, this short-sighted approach made ISR business models less likely to graduate from their perpetual rat race where they lived hand-to-mouth, to more profitable levels of existence. This research found that even when ISR players reached a comfortable level of existence where their income was enough to meet daily needs, they stopped striving for more as survival was the driver of their business models and not profit. This characteristic of ISR business models explained the extensive variations in ISR player durations in the sector – ranging from one (1) day to thirty (30) years with no meaningful improvement in the quality of their lives. With monthly income levels between three to eighty American dollars (US\$3 to US\$80), the average income earned by ISR players was too low to escape poverty. As such, ISR players admitted to approaching their work as a form of distraction from life's problems.

The survival orientation of ISR business models also shaped how ISR players accounted for their income generation activities. ISR players used informal accounting methods where they measured the profitability of their business models by how well their basic, survival needs were met. Furthermore, this research found that in contrast to formal recycling company methods, ISR business models employed a more humanistic approach to how they measured and exchanged value. ISR business models during value exchange considered each other's social experiences beyond market economy activities and measured value based on level of effort invested. In value exchange, ISR players expressed how they only made trade agreements which they felt were fair and which they could meet.

Eighty percent (80%) of ISR players did not see their work as a business. A majority of ISR players revealed that they did not regard their work as a business due to the belief that a normal business involved some form of value exchange. ISR players said they did not see the value they were getting in return for the value (hard work and effort in dire working environments) they were providing to recycling businesses, communities and the government. The working culture demonstrated by these resilient collective independent economic agents were beyond traditional entrepreneurs and social entrepreneurs. This research therefore categorised ISR players under an alternate version of social entrepreneurs – ‘circumstantial social entrepreneurs’.

b) Generational informality as a foundation for a dictatorship of no alternatives

Forty-nine percent (49%) of ISR players were found to not have national identity document (national ID) or birth certificates. This lack of personal registration documentation meant that these ISR players could not access mainstream socio-economic opportunities to improve the quality of their lives or graduate into alternative sources of livelihoods. Access to the most basic mainstream socio-economic services ranging from medical aid, funeral policy, mobile phone sim card registration, bank account opening, required one to have a national ID. For one to access formal employment opportunities, besides the required educational qualifications, one would need to provide a valid national ID number. Due to a lack of the basic documentation, these ISR players were excluded from even the most progressive inclusive socio-economic services and products being developed or offered by the Zimbabwean government and formal sector. These ISR players, and their children who subsequently did not have birth certificates, found themselves trapped in a dictatorship of no alternatives (Unger, 2005) with a recurring theme of generational informality with each new generation born and bred without these essential documents.

After failing to access affordable solutions to obtain personal registration for themselves and their children, ISR players settled to develop alternative forms of social organisation. For example, ISR players who did not have birth certificates or national IDs and hence could not register personal phone sim cards used the mobile payment platforms of their counterparts. However, these forms of social organisation were a major impediment to the graduation of ISR players into mainstream economic spaces. Even when ISR players engaged with formal sector within mainstream economic spaces, coping strategies used within these forms of social organisation contributed to flawed statistics about the participation of ISR players. For

example, the use of one personal mobile payment platform by a group of ISR players flawed mobile payment platform and mobile network registration statistics.

c) *ISR value chain built upon ethos of survival economics*

Following an analysis of the findings of this research regarding the characteristics of informal sector recycling (ISR) value chains, and the fundamental mismatches between these and formal value chains, this research found that the ISR value chain was founded upon a form of social organisation based on ‘survival economics’. ISR players were found to have a collective identity with shared experiences of exclusion and background of suffering – “*We don’t discourage anyone because we are all suffering.*” ISR players did not compete against each other. Instead, they worked together across the different value chain stages learning and teaching each other new skills and practices of the trade, pooling individual finances in order to engage in collective production within shadow economy and mainstream economic spaces.

Figure 9 - Value exchange across informal, semi-formal and formal actors



Figure nine (9) above provides an illustration of value exchange across informal, semi-formal and formal value chain actors. Using survival economics as a form of self-organisation in economic activity, value exchange across the informal to formal sector recycling value chain took place within one value chain. The ISR value chain was neither separate from the formal sector recycling value chain nor was it detached to parallel value chains. Rather, all three formed parts of one value chain in which some parts comprised of undocumented (informal) activities, documented (formal) activities, and also undocumented, illegal (parallel industries) activities.

ISR players used the ethos of survival economics as a coping mechanism which allowed them to maintain economic activity across both mainstream and shadow economy spaces. However, this strategy became a limitation and challenge during value exchange to the compilation of statistics to inform the development of sector specific strategies to gradually formalise the ISR sector. For example, when ISR players engaged in value exchange with semi-formal and formal entities at times the networks of ISR players were represented by one individual - a temporary leader, who throughout value exchange became a representative of an unknown number of independent economic agents. Additionally, ISR value was at times diverted to power the competitiveness of undocumented, parallel and illegal industries. This manner of economic activity resulted in a loss of value for formal sector and posed public health and other risks due to a lack of conformance to mainstream safety standards.

13.2 Informal sector recycling (ISR) perceptions of ‘informal’ and ‘formalisation’

The following section looks at how informal sector recycling (ISR) players perceived concepts of ‘informal’ and ‘formalisation’ in relation to their work and sector. ISR players acknowledged that formalising their income generation activities was important. However, their rationales, perspectives and strategies on formalisation of their sector were quite different from those provided by the government and private sector. The following section provides a review of the ISR players’ perspectives on informal and formalisation in respect of the national formalisation agenda, even though according to a government official within the Ministry of Small and Medium Enterprises and Cooperative Development (Ministry of SMECD), the current scope of the national agenda excludes the recycling industry as a whole (personal communication, 10 January, 2017).

Regarding their unregistered status, ISR players stated that their informality often led to confrontational situations with the local authority, Bulawayo City Council (BCC), as well as law enforcement officials. One participant stated that “*Those who are not registered face harassment and eviction, but we have nowhere else to go.*” In previous years, the BCC evicted a number of ISR players from the landfill site. However, as the evicted players had no other alternative means of income generation they returned. Furthermore, the police force was said to make random inspections during which they asked for a national identity document and proof of business registration.

The above shows that ISR players felt that their informality limited their access to markets. For example one middle-aged male, aluminium processor explained that a potential big supplier of raw materials for their business was a well-known local manufacturing company. However, as they were not known they could not approach this company. Furthermore, their informality was seen as a cause for suspicion by law enforcement officials. These effects stemming from their informality were found to be a constraint to ISR players’ participation within mainstream economic spaces and often limited them within shadow economy spaces and parallel industries.

Besides the above, the findings in earlier sections of these research findings highlight that ISR players do not operate entirely as individuals or as groups but as intricate, networks of ‘collective independent’ players who adapt to suit specific work requirements to meet immediate goals and tackle problems as they arise. Chen (2012) suggested that individually, ISR players have minimal bargaining power to influence terms and conditions of the transactions they conduct with formal business. In remedy to this, Dhembha (1999) and Gerxhani (2004) recommended that ISR players should form associations where their collective ‘voice’ could be utilised to influence terms and conditions of business. This could hopefully lead to some change in the power dynamics in transactions between formal and informal players. The following paragraphs highlight ISR perceptions towards ‘formalisation’.

- a) ISR players associated formalisation with ‘being known’ or recognition of their work in some form. At their current level, ISR players felt they were excluded from most spheres of life including business and society due to their unknown status. In business or the recycling industry as example, ISR players were not included in key decision making processes which potentially affected (positively or negatively) their source of livelihoods.

As one informal research participant expressed, *“they (formal sector and government) think for us.”*

The above therefore illustrates that in their view, their informality was a criteria for social exclusion from mainstream socio-economic participation. Even so, through their informality ISR players grew an alternative form of social organisation in which they coexisted and supported each other’s attempts at an independent survival.

b) *Inclusive development was the desired pre-requisite of formalisation.* On the aspect of ‘formalisation’ being associated with ‘being known’, most ISR players stated that they *“did not want to be known is there was no benefit.”* Most ISR players expressed significant mistrust on the intentions behind formalisation citing the below:

- *“I live in a shack and then you (government) expect me to pay (taxes) from the little money I make – to remove money out of this US\$0.10c.”*
- *“Why do you (government) want to ‘know me’ when you do not want to develop me? First help me stand on my feet and walk before you start to ask for money! I know that all this is because government wants tax.”*

As illustrated in the quotes above this research found that for ISR players, authentic interaction and inclusive development were the expected pre-requisites to formalisation at any level – recognising the different levels of informality. As one male ISR player expressed during focus group discussions: *“poverty is when people look at our state and decide that we have nothing to contribute (to our own development). And they decide for us what is best for us without consulting us. To us, this is the real poverty.”* From this ISR player’s perspective which was shared by the majority of ISR players in that particular focus group, formalisation should not be about the government or formal sector draining them of their hard earned meagre income while still maintaining little to no understanding about who these players are, their challenges and hopes for the future.

c) ISR players expressed concern that ‘formalisation’ and ‘formality’ would present additional costs to their operations such as adhering to health and safety regulations, and paying taxes amongst other requirements. ISR players therefore felt that if their income generation activities were to survive at a formal level, they would first need to be developed in order to contribute positively to the economy. Additionally, ISR players expressed that they experienced certain benefits of being ‘unknown’ which once they

become 'known' they would cease to have access. Whilst they acknowledged that informality had certain disadvantages, informal players felt the disadvantages of formalisation outweighed the benefits.

As ISR players continued to operate at an informal level due to its perceived advantages without any micro-business developmental support, their income generation activities rarely graduated beyond rat race-level to more profitable levels. According to the classification of informality by Williams & Nadin (2012), this would place a majority of ISR players in the 'permanently wholly informal'. ISR players at the bottom of the value chain, for example waste harvesters both those operating from the dumpsite and those in communities, were found to be more likely to remain at the permanently, wholly informal level with no intentions to formalise.

- d) ISR players felt that the process of formalisation enforced restrictive standards and ways of conducting their work. For example, one ISR player stated that *"Once I have registered you (government and private sector) will start telling me that in order to continue in this line of work I must wear protective clothing."* ISR players revealed that protective clothing was restrictive to their work and uncomfortable.

Therefore, formalisation was associated with adoption of work practices and regulations which were not suitable for the ISR sector, resources and working environments. ISR players related formalisation with a loss of flexibility to adapt their work arrangements to respond to pressing needs and address emerging problems.

- e) Formalisation was often linked to some form of registration fee whether as a once off payment or as periodic tax payments which ISR players felt would drain their meagre earnings. A young woman stated that *"What we don't know is since what we make is so little, if registering needs a fee then that will limit us."*

Furthermore, ISR players felt that even if they formalised their operations, the government would not keep its promise of a variegated tax system but would instead strangle their businesses with *"registration fees and taxes which do not consider where you are and what you are doing."*

- f) The process of formalisation was found to be unclear. Some ISR players explained that formalisation involved registration with the Bulawayo City Council (BCC), while others

stated that it was registration ‘anywhere’. One ISR player indicated that he had registered with the BCC office located at the dumpsite. However, BCC had no knowledge of any registration database as “*the informal players come and go and always change so it is hard to keep track of them.*”

Some ISR players stated that they did not see the need to register as what they were doing “*was too small and was not going anywhere.*” This suggests that ISR players viewed formalisation as an option for a particular sized business possibly at micro-enterprise level. These views were in line with the criteria set by the Ministry of Small and Medium Enterprises and Cooperative Development (Ministry of SMECD) which set the benchmark turnover size for micro-enterprises at US\$30,000 to US\$50,000 (Ministry of SMECD, 2015).

ISR players felt that formalisation was not an option for them as their business activities were too insignificant. In contrast however, ISR players acknowledged that in order to grow and access mainstream economic opportunities they would need to formalise. This revealed a tension between ISR player decisions to remain informal versus aspirations to grow in their business, aspirations which were more attainable when trading formally within mainstream economic spaces.

13.2.1 Emerging key themes

Following the above review of key insights to informal sector recycling (ISR) perceptions on ‘informality’ and ‘formalisation’, this section outlines the key emerging themes from the findings of this research. The below section outlines the fundamental themes on informality and formalisation which may in turn affect ISR graduation into mainstream economic spaces. The section also gives insights into emerging themes which could inform alternative approaches to attempts to ‘formalise’ the informal sector.

a) Key defining ISR strategies for consideration during ‘formalisation’

Regarding the relationship between ‘informal’ and ‘formal’, this research found that although informal sector recycling (ISR) player value chains were different from their formal counterparts they did not make up parallel value chains, save for the ISR players involved in parallel industry activities who are beyond the focus of this research scope. ISR player value chains fed into and drove the competitiveness of formal value chains. In turn, semi/formal value chains provided a market to sustain informal value chains. However, mis-matches were found in how ISR players measured, perceived, created and exchanged value in informal

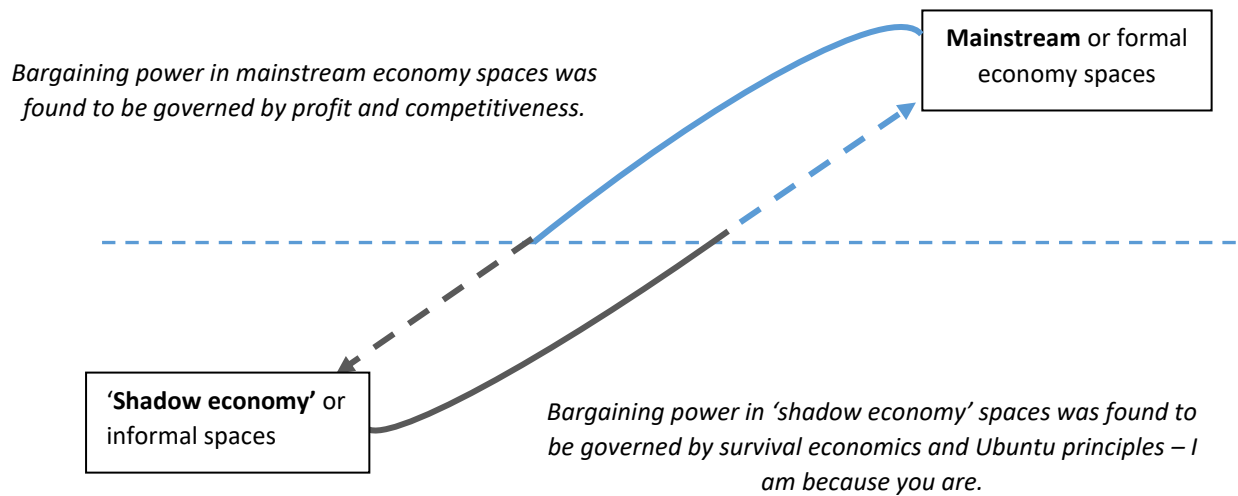
economic spaces versus approaches used by semi/formal sector players within mainstream economic spaces.

This research also noted fundamental differences in how both formal and informal players engaged in value exchange across shadow and mainstream economy spaces. In order to maintain their competitiveness when trading amongst themselves, ISR players employed strategies which maintained or built their competitiveness within these spaces. During such ISR to ISR player value exchange situations, ISR players in higher levels of the value chain incorporated both informal and formal value exchange approaches. For example, whereas semi/formal players used scales to ascertain the exact weight and price of waste supplied by ISR waste harvesters, the quality of quantity of waste supplied and the estimated effort employed to gather and process the waste before sale were factors which ISR players considered when establishing the buying price and negotiating terms of payment.

This research found that some informal operational strategies and survival tactics employed by ISR players had inherent mis-matches which presented challenges during value exchange with semi/formal recycling players. Some of these mis-matches were as a result of constrained access to mainstream resources including equipment to weigh collected waste before sale. Others were a manifestation of ISR culture which enabled their continued survival and competitiveness.

Additionally, some of the approaches used by ISR players to create value in shadow economy spaces were considered as unethical, environmentally degrading and hazardous to the health of the players themselves and wider society within mainstream economic spaces (personal communication, 10 January 2017; 23 January 2017). For example, not only did ISR players who melted plastic and moulded animals cut down trees to build fires for their production processes, but their operations led to air pollution. Furthermore, ISR players also inhaled fumes from the melting plastic which exposed them to health hazards. However, ISR players revealed that working in this manner was what maintained their competitiveness as they did not have to comply with costly production standards.

Figure 10 - Value exchange across shadow economy and mainstream economy spaces.



As per illustrations of value exchange across shadow and mainstream economy spaces in figure ten (10) above, when semi/formal players and ISR players crossed shadow and mainstream economy boundaries and engaged in trade, both informal and formal players adapted to form an ecosystem. For example, ISR players working in networks adapted to formal players' trade preferences and chose an individual representative of the group to negotiate the terms of trade and receive payment on behalf of the network of ISR players.

During key informant interviews a senior representative of a formal recycling company expressed that in order to tap into the network of ISR players, one had to relate to the ISR player collective identity and empathise with their experiences (personal communication, 5 January, 2017). As such during trade transactions with informal players, formal companies did not go straight to talk business, but first exchanged greetings with the ISR players. In this instance this research found that the formal recycling sector adapted to the informal business culture and together, formal and informal formed an ecosystem. Although various formal recycling company representatives acknowledged the ISR network's power as the base upon which the recycling industry stood, even within this ecosystem ISR players did not have power to influence trading or value exchange terms during sale negotiations with semi/formal players (personal communication, 5 January 2017; 17 November 2017). This research found that the ISR bargaining power was stifled by semi/formal players who used their access to mainstream resources including market knowledge and equipment as a tool to subdue ISR players' power.

As shown in figure ten (10) above, whereas bargaining power within mainstream economic spaces was driven by competitiveness and profit, at shadow economy level bargaining power was driven and governed by survival economics. In terms of moving informal to formal, these emerging themes raise the need for alternative approaches. These could include approaches where the graduation of informal sector into mainstream economic spaces does not simply mean that ISR players have to desert their way of doing business. This research found how through inclusive, social innovation approaches, both formal and informal sector players could learn from each other in order to improve their competitiveness within mainstream economic spaces.

b) Authentic interaction and inclusive development – pre-requisites to formalisation

Following interviews with formal players, focus group discussions with informal sector recycling (ISR) players and rapid ethnographic observations, this research found that authentic interactions made up the core of ISR player working culture. Before semi-formal and formal recycling players engaged in business with ISR players, it was the norm to first exchange greetings. This culture over time resulted in trading relationships in which ISR players felt they ‘trusted’ and knew their trading partners. On the topic of formalisation, the repeated themes from ISR players were that a similar approach to their development and gradual formalisation was desirable. ISR players felt that before any formalisation strategies were developed, formal sector and government must make attempts to engage with the network of ISR players and understand who they (ISR players) are, their challenges and hopes for their future.

In terms of how to bridge the informal with the formal during processes to graduate ISR players into mainstream economic spaces, a majority of ISR players expressed an unwillingness to desert their way of life and conform to mainstream economy business culture and processes. Instead, ISR players desired a natural formalisation through strengthening value chain linkages. For example, although ISR players expressed they did not want to formalise they still expressed an interest to graduate beyond shadow economy spaces and to develop linkages with formal waste generating and recycling companies. Furthermore, ISR players expressed an interest to participate in policy dialogue and to work with local government to develop and implement developmental strategies targeting the recycling industry.

c) Generational informality – social structural limitations to ISR formalisation

This research observed a phenomenon of ‘generational informality’ which posed social structural limitations to informal sector recycling (ISR) development and formalisation. Forty-nine percent (49%) of informal sector recycling (ISR) participants in this research had no birth certificates and/or national identity documents. These ISR players in turn had children who had no birth certificates and could not access mainstream social services including formal education opportunities. One distressed ISR female player stated that *“A lot of us gave birth to children here. The mother has no birth the child has no birth certificate. What happens to this child when both parents die? When you go to enquire at the Registrar’s office they will not talk to you nicely. They will tell you to go back with US\$50 – but a person like me where will I get US\$50?!”*

This phenomenon of generational informality bred generations of marginalised populations who grew to find themselves in a dictatorship of no alternatives. When mainstream economic participation required basic personal registration in order to gain access to all inclusive services and/or facilities ranging from mobile money platforms, bank accounts, access to medical and social services, these population groups were found to be socially excluded from most forms of mainstream economic participation and were as a result, pushed into deeper and more permanent levels of informal existence. This research found how through social innovation approaches ISR players came up with ways through which they could earn an income in shadow economy spaces where they did not need birth certificates and national IDs.

14.0 Research analysis and discussion

14.1 Inclusion and social innovation in ISR business models

Previous sections of these research findings have explored informal sector recycling (ISR) player value chains, characteristics of ISR business models as well as perceptions of these players towards formalisation and informality. In line with the final research question, the following section entails an analysis and discussion of research findings on how ISR business models harness opportunities for inclusive, social innovation. Nicholls et al. (2015) stated that there is a need for context specific data on the growth and degeneration of various forms of social organisation, their social make up and characteristics. This section outlines context-specific factors which birthed ‘effective demand’ for inclusive, social innovation and

explores findings on the social make-up of inclusive, social innovations inherent in ISR business models operating within Bulawayo, Zimbabwe.

14.1.1 Context-specific factors which birthed ‘effective demand’ for inclusive, social innovation in ISR business models

Prior to analysing findings on how informal sector recycling (ISR) business models harnessed opportunities for inclusive, social innovation, this section paints a background of the context-specific factors uncovered by this research which created an ‘effective demand’ for inclusive, social innovation within ISR business models (Nicholls et al., 2015). Although in Nicholls et al. (2015) effective demand was discussed in relation to scale, this section explores the phenomenon in an attempt to describe some of the factors which gave rise to the need for inclusive, social innovation within ISR business models.

This research found that part of the context-specific factors which gave rise to opportunities and the need for inclusive, social innovation within ISR business models were period related, with particular correlation to the on-going socio-economic conditions experienced at a macro-level in Zimbabwe (Mulgan, 2006; Nicholls et al., 2015). The economic downturn experienced in Zimbabwe (Hanke, 2009; BBC, 2009; “55,000 workers lose jobs in three years”, 2016; NewsDay, 2017) which among other factors, resulted in thousands of economically active people losing their jobs in the formal sector (News24, 2009; Chitagu, 2015; Mtomba, 2015) as various economic entities collapsed ultimately contributed to the growth of the informal sector (Times Live, 2015; “55,000 workers lose jobs in three years”, 2016).

This research found that as suggested by Brand (1986), some ISR players had entered their line of work following loss of formal employment. The decay of the formal economy in Zimbabwe and collapse of various factories and manufacturing entities saw skilled professionals, especially at production floor level, losing an avenue to earn an income through their formal skills. These formal skills became invalid with the continued demise of the formal manufacturing sector and reduced number of job openings especially in Bulawayo Zimbabwe’s former industrial hub (Zimbabwe Parliament, 2011) where the effects of de-industrialisation were felt the most (Munyaka, 2014). In effort to engage in some entrepreneurship activity within their means, some of these players took up the opportunity presented through informal sector recycling. In order to survive and thrive in the informal

sector, this research found that these ISR players adapted their knowledge and skills through informal learning systems.

Additionally, a majority of ISR players prior to the economic downturn experienced in Zimbabwe were engaged in informal long term work arrangements to provide casual labour in residential homes as gardeners and maids. This research found that this particular segment of ISR players resorted to this line of work as a means for alternative ways through which they could continue their informal participation in the economy and secure their livelihoods in a manner which matched their resource capabilities and maintained their independence.

Furthermore, almost fifty percent (49%) of ISR players had no national identity (national ID) and/or birth registration documentation. The children of these players were also found to not have these basic and yet fundamental personal registration documents. Over the years and into two generations identified by this research, this has bred a form of generational informality – generations of citizens born and raised without record. This prevented ISR players and their children from unrestricted participation in mainstream social, economic and political spaces. Therefore not only were these ISR players informal with respect to their economic activity, but they were informal citizens who did not have the most basic fundamental personal registration documents.

Nicholls (2006), as cited by Nicholls et al. (2015), stated that conditions for inclusive, social innovation can be created not only by failures in commercial markets but also in public sector markets where government fails to provide essential services including social welfare and housing. This research found that seventy-three percent (73%) of interviewed ISR players were within the working class ages of eighteen (18) to fifty (50) years; whereas twenty-two percent (22%) were pensioners beyond retirement age. Through ISR player discussions, this research was able to correlate the effect of macro-economic calamities on the lives of these ISR players. One such correlation was in relation to the collapse in social services and the obliteration of pension funds experienced during the dollarization era (BBC, 2009; Hanke, 2009). ISR players of retirement age expressed how they entered informal sector recycling work after they lost their entire sources of income in the collapse of pension funds. One distraught elderly female ISR player stated that they *“do what they can to survive. They are widows, with no money, and no husbands.”* Therefore, this research found that ISR business models were a response to both commercial market failures as well as failures in public

service provision and local governance exhibited by adults with no national IDs, affordable housing options, and access to responsive social services amongst others.

14.1.2 Descriptive analysis of how ISR business models harness inclusion and social innovation

Following the above review of some of the factors which created the need and opportunities for inclusive, social innovation within informal sector recycling (ISR) business models the below section gives a descriptive exploration of how these ISR business models harness inclusion and social innovation.

a) ISR players as ‘circumstantial social entrepreneurs’

Social entrepreneurs are said to be mission-driven individuals who create and sustain social value to the less privileged over a process that harnesses innovation without limitation of resources at hand, and through an entrepreneurially focused entity that is financially self-sufficient (Dees, 1998; Dees, 2004; Light, 2006; Abu-Saifan, 2012). Dees (1998) positioned social entrepreneurship as an “entrepreneurial approach to social problems” and stated that social innovation could be considered as an established discipline of social entrepreneurship where through business models, social and/or environmental needs are addressed.

For comparative analysis purposes, this research interviewed mainstream economy players who expressed that they did not view informal sector recycling (ISR) players as waste entrepreneurs because of the belief that ISR players did not approach their work as a business (personal communication, 17 November, 2017; 5 January, 2017; 10 January, 2017; 23 January, 2017). This research found this sentiment to be true when analysing characteristics of ISR business models. According to Dees (1998), for-profit mainstream economic players and business entrepreneurs operate under market disciplines which are different from those of a social entrepreneurship orientation. As a result of this difference ISR players were not recognised as economic agents capable of the level of innovation, boldness and discipline attributed to traditional entrepreneurs (Schumpeter, 1934).

Contrary to assertions by Ishengoma and Kappel (2006), ISR players constituted a more permanent version of informal entrepreneurs in-between ‘business’ and ‘subsistence’ informal entrepreneurs. This research found that ISR players were in fact at a category

beyond traditional definitions of for-profit or wealth oriented traditional entrepreneurs (Dees, 1998) and superhuman social entrepreneurs who were focused on serving the less privileged and ensuring their economic activities lead to sustainable, positive impact (Dees, 1998; Dees, 2004; Light, 2006; Abu-Saifan, 2012).

The primary motivation for ISR economic activities was not to create and sustain positive social and environmental value and impact (Nicholls et al., 2015). Although ISR economic activities created socio-economic value for themselves and powered the competitiveness of semi/formal recycling players, they also led to negative socio-economic and environmental impacts. For example, ISR waste harvesters disrupted the efficiency of solid waste management and disposal programmes by the Bulawayo City Council (BCC) by collecting waste from the dumpsite, transporting it to their work sites for processing. These ISR players created an additional task for the BCC to collect and dispose what they discarded after processing. Additionally, some production practices employed by ISR processors led to air pollution and de-forestation. For example, the fumes emitted from aluminium smelting blast furnace led to air pollution. Furthermore, the trees cut down to build fires for melting plastic used to mould artefacts contributed to deforestation.

Traditional social entrepreneurs are presented as those saving or serving the less privileged (Abu-Saifan, 2012) by creating and sustaining social value (Dees, 1998; Abu-Saifan, 2012). However, ISR players' primary motivation was centred on securing their individual survival in an independent manner through an accessible income generation activity. The benefit to wider society and the environment came as a secondary output of ISR business models where through their economic activity they addressed social and environmental problems associated with solid waste management.

Additionally, ISR players did not solely serve the less privileged through the value created by their business models. ISR business models fed the competitiveness of privileged mainstream semi/formal recycling buyers as well as the competitiveness of underprivileged ISR buyers within shadow economy spaces. The ISR value chain was not about an external hero-type social entrepreneur saving the helpless. ISR players constituted members of the less privileged populations. Furthermore, forty-nine percent (49%) of these ISR players were Zimbabwean ghost citizens born and raised without mandatory personal record (birth certificate and/or national identity document). As ghost citizens they were structurally excluded from all forms of mainstream social, economic and political engagement. Instead

of waiting to be saved and out of a desire to live an independent life, they self-organised with other individuals sharing similar experiences of socio-economic exclusion. These ISR players exhibited entrepreneurial behaviours beyond traditional social entrepreneurship disciplines and exercised their agency within shadow economy spaces to undertake an income generation opportunity which was within their collective resource capabilities.

Although both business and social entrepreneurs create value through economic resources, Dees (1998) states that “social entrepreneurs often cannot capture the value they create in an economic form to pay for the resources they use.” Dees (1998) calls this a “value-capture” problem, where during value exchange social entrepreneurs find it hard to redeem in economic or financial form payments of a reasonable value in comparison to the social value they would have created and to off-set the costs of production. In remedy to this social entrepreneurs often rely on philanthropic support to sustain their socio-economic activities (Dees, 1998). This value-capture tension was seen even in ISR business models during value exchange across shadow to mainstream economic spaces. ISR players off-set this problem by adopting humanistic approaches during value exchange within shadow economy spaces. When determining the buying price, ISR buyers considered the effort and time involved as well as the mission of the ISR supplier. As a result of this humanistic approach, ISR players felt that value exchange offers within shadow economy spaces were fair. However, these ethos were not harnessed during value exchange across shadow and mainstream economic spaces. ISR players did not feel they got sufficient value in return for their effort at the point of value exchange during trade with formal players.

Contrary to social entrepreneurship definitions ISR business models were not exclusively financially independent, or self-sustainable (Dees, 1998; Abu-Saifan, 2012). ISR sustainability lay within ISR networks and the working culture of adaptive, collective independence and survival economics expressed within these networks. ISR networks were in a perpetual state of inno-fusion to secure not only individual ISR player survival, but the collective sustained survival of counterpart ISR players. In line with social innovation literature (Nicholls et al., 2015), ISR players unleashed and expanded each other’s human potential in order to survive. They did not compete against each other. Using survival economics to govern their self-organisation, ISR players worked together across the different value chain stages learning and teaching each other improved skills and practices of the trade, pooling individual finances in order to acquire resources, joining forces to engage in

collective production and trade beyond shadow economy spaces and into mainstream economic spaces.

Dees (1998) stated that social entrepreneurs “engaged in a process of continuous innovation, learning and act boldly without being limited by resources currently in hand.” As explained above, ISR business models expressed these qualities of social entrepreneurship. ISR business models within ISR networks were not limited by a lack of traditional resources and equipment. Where they lacked traditional equipment, ISR players adapted everyday tools to carry out their work. Additionally, ISR players modified concepts from formal education to design grassroots innovations. For example, for a period of over six (6) years a group of ISR players graduated from harvesting aluminium cans to adapting the traditional design of a blast furnace in order to smelt aluminium cans into ingots. Tapping into their collective experience, creativity and problem solving nature, ISR players continued to improve this smelting concept to meet ever changing market needs and their resource capabilities.

Although ISR business models exhibited some qualities of social entrepreneurship in their “organisational enactment of social innovation ideals” this research established that ISR players were an alternate category of social entrepreneurs (Nicholls et al., 2015). ISR business models were found to be a dance between survival and other socio-economic needs which during their pursuit ISR networks harnessed ethos of shared value and ‘Ubuntu’ - ethos which private sector is trying to harness. When engaging in economy activity these astounding survivalists tapped into their networks and pooled their collective human potential in order to secure the collective sustainability of their individual economic activities.

This research hereby categorises ISR players as ‘**circumstantial social entrepreneurs**’ – social entrepreneurs who are driven into action as survivalists, who create and use economic models which do not adhere to traditional market disciplines but combine aspects of traditional and social entrepreneurship governed by progressive social and environmental ethos for example Ubuntu values and survival economics.

b) Survival economics

Informal sector recycling (ISR) players’ working culture founded upon collective experiences bred a form of social organisation based on ‘survival economics’. Although ISR players had very little in terms of traditional financial and material resources, they formed their own economy within which they allocated value to social capital including learning and teaching

each other new skills and practices of the trade, pooling finances from each other in order to acquire resources, joining forces to engage in collective production and trade. ISR players neither viewed each other as competitors during independent trade transactions, nor as followers of a sole leader when engaging in collective working arrangements. Through a collective spirit of interdependence they built new relationships amongst themselves and even supported each other to trade within mainstream economic spaces which were otherwise inaccessible by individual ISR players. ISR players shared and supported each other as well as other people who ‘came down to their level’ such as formal players who looked up to the intricate network of ISR players as a pool of industry knowledge.

Using ‘survival economics’ as a form of self-organisation in economic activity, value exchange across the informal to formal sector recycling value chain took place within one value chain. The informal sector recycling value chain was neither separate from the formal sector recycling value chain nor was it detached to parallel value chains, but all three formed parts of one value chain in which some parts comprised of undocumented (informal) activities, documented (formal) activities, and also undocumented illegal, parallel industry activities.

c) Structural and organisational innovation in ISR value chains

Literature states that as existing potential inclusive, social innovation initiatives and market systems work towards including marginalised groupings in their activities, progress in these resulted in structural and organisational innovation such as intermediary organisations emerging to bridge the gap between mainstream players and marginalised groupings (Heeks et al., 2013). Evidence of such innovation was observed during participatory value chain mapping sessions involving ISR players. Here the presence and growth of informal sector recycling (ISR) players in the recycling value chain has led to the introduction of enterprising middlemen or ‘waste entrepreneurs’ who bridge the gap between ISR players and formal recycling companies. Furthermore, the resource limitations of the majority of ISR players which meant that they largely undertook their work with no equipment led to the introduction of enterprising ISR players who rented out equipment such as scales to weigh collected waste before and/or during value exchange or sale.

d) How ISR business models have re-defined boundaries between state, market and civil society

Nicholls et al. (2015) explained social innovation as more of an unchained movement founded upon possibilities – “above all the idea that in the right circumstances people can make, shape and design their world, and more specifically, that they can invent and grow new forms of social organisation.” This research found evidence of how ISR players have re-defined the boundaries between state, market and civil society. For example, for many years solid waste management has been the sole responsibility of local government that is - the Bulawayo City Council (BCC). A Council official stated how “*the moment an individual places waste in a bin it became the property of the Bulawayo City Council*” (personal communication, 11 May 2017). Once collected by BCC refuse trucks, this waste was transported to the city dumpsite. However, participatory value chain mapping exercises with ISR players revealed how through their work, ISR players’ efforts have helped to divert waste from the dumpsite to be recycled. By so doing ISR players engaged in a form of developmental cooperation with local government, and took up part of the solid waste management responsibility.

e) How ISR business models have fostered the creation of new social relationships

According to Murray et al. (2010) social innovations not only meet social needs, but through their collaborative nature of development and implementation are likely to conceive new social relationships. Informal sector recycling (ISR) business models were found to embody this quality. For example, ISR players and their networks were acknowledged as a source of trade information on parallel industries and ISR networks. This information was not available in mainstream knowledge sources and was of strategic relevance to formal sector players including recycling and manufacturing companies.

A senior official from a local recycling entity explained how his company not only obtained information to aid his company’s trade with the network of ISR players, but also how ISR players have become a reliable source of information on parallel industries. The senior official explained how his company in turn provided this crucial information to manufacturing companies, a form of cooperation between informal sector, recycling entities and manufacturing companies which did not exist before. As a result ISR players played a critical role in new social relationships between themselves, recycling companies and manufacturing companies.

f) Securing livelihoods as a driver of ISR inclusive social innovations

Mulgan (2006) distinguished social innovations by citing that their means and ends are predominantly social and therefore not entirely economic gain. This research found that profit was not a primary motivator for informal sector recycling (ISR) business models. Rather, the business models employed by ISR players provided a means to address their social problems and secure their livelihoods in a manner which maintained their independence. This was particularly so in ISR informal learning systems where this research found that knowledge was shared for the purposes of authentic interactions and collaborative mutual support for each man and woman to earn money. This was in contrast to formal sector recycling player focus on learning as a driver of competitiveness and profitability.

g) ISR business models as combinations of existing elements

The ‘connected difference’ theory of social innovation states that social innovations are normally hybrids of existing elements instead of being entirely novel ideas and solutions (Mulgan et al., 2007). Informal sector recycling (ISR) business models were found to reflect this. Inclusive, social innovation in ISR business models was found to sometimes manifest through adaptations of formal market systems and techniques from formal learning systems. For example, ISR players who processed aluminium cans into ingots had over a period of six (6) years adapted the blast furnace concept and built their own version which matched their technical and resource capabilities. During key informant interviews these ISR players explained how they had either been exposed to the blast furnace concept through formal learning systems or during their time as employees within formal entities.

h) How ISR business models self-govern and shape their world

In as much as inclusive innovation is about including the previously marginalised in the mainstream of development (Foster & Heeks, 2013), Nicholls et al. (2015) stated how social innovation was founded upon a democratic ideal of self-governance in which people shaped and designed their world through new or alternative forms of social organisation.

As informal sector recycling (ISR) players engaged in their work, they connected with each other over their shared experiences of social exclusion, unemployment and lack of an alternative means to survive. These shared experiences over time bred a collective culture of empathetic cooperation and interdependence amongst small groups of ISR players, especially those within a particular geographic site such as Ngozi mine. This formed the foundation for

ISR business model self-governance. During focus group discussions, a number of ISR players highlighted how they shared similar values and that “*each man is working for himself and there is no one who tells anyone to pick or don’t pick as we all understand each other’s suffering.*” ISR players, as circumstantial social entrepreneurs, were found to have a deep-rooted collective value system encompassing - transparency, mutual respect, family and shared value. This research found that ISR player shared experiences of social exclusion coupled with the above mentioned collective value system governed ISR business models. This research found that during trade transactions between ISR players and formal sector, recycling companies conformed to ISR self-governance requirements. Before discussing business, recycling company officials explained how they had to adopt the ISR way of doing business by first exchanging greetings and empathising about life’s problems.

ISR business models employed this manner of self-governance even in the distribution of scarce resources or resources which were not accessible to ISR players in their individual capacity. This research found how even though ISR players were resource-poor in respect of traditional material resources; they shared what little they had with each other. For example, the cash crisis experienced in Zimbabwe and increase in preference of bank transfer and mobile based payments during informal to formal trade transactions meant that the forty-nine percent (49%) of ISR players found to not have national identity (national ID) documents could not open bank accounts or register mobile phone sim cards. However, these ISR players used the mobile payment platforms of their informal counterparts who had birth certificates and national identity documents.

i) ISR business models and the pursuit of human potential through inclusive, social innovation

Mulgan in Nicholls et al. (2015) stated that there is a need for academic research to map and facilitate an understanding about how societies can unleash human potential to govern individual lives and design alternative forms of social organisation. This research found that at an informal sector recycling (ISR) level, business models were organically designed to make the most of the human potential within ISR players.

ISR players were found to be ordinary men and women who due to severe circumstances were forced to tap into their inner resourceful and creative capabilities in order to extract value from what others discarded as worthless trash. Previously despondent unemployed and

formally uneducated men and women after being exposed to ISR learning circles, were developed into skilled aluminium can processors and others into artists who perfected techniques of making sculptors from melted plastic.

Often, it is assumed that these ways of unleashing human potential were good for social health and the economy as stated by Mulgan in Nicholls et al. (2015). This was found to be true as some ISR players mentioned how their work gave them some distraction from life's problems. Furthermore, the manner in which human potential was unleashed in ISR business models was intended towards intensified positive benefits accruing to localised communities for their sustenance and survival.

Besides the above, even as ISR business models were found to contribute to the economy and the competitiveness of formal recycling entities, these ISR business models also created social damage. For example, not only did the informal recycling work of ISR players pose negative health and environmental impacts, but the presence of ISR players at Ngozi Mine had also gradually turned the landfill site into an informal settlement. Therefore, there was strong evidence of tension around what constituted as social good or social value even in their pursuit to push the boundaries of their potential.

j) ISR business models founded upon inclusive, social innovation approaches

The foundation of informal sector recycling (ISR) business models was built upon inclusive, social innovation approaches. Forty-nine percent (49%) of ISR research participants were found to not have birth certificates and national identity documents (national IDs). These were Zimbabwean citizens who despite a willingness to be economically active were excluded from mainstream socio-economic participation. Not only were these ISR players informal in the traditional categorisation of their entrepreneurial ventures, but they were informal themselves. Due to a desire to lead an independent life and earn an honest income, these 'ghost citizens' resorted to economic activity in shadow economic spaces where personal registration and restrictive regulations found in mainstream economic spaces were not mandatory. In these shadow economy spaces, this research found how ISR players formed new forms of socio-economic organisation which as Nicholls et al. (2015) suggested, were made lasting through the resultant ISR business models.

k) Learning and research development in ISR business models

Informal sector recycling (ISR) players worked in a continuous learning environment drawing from collective knowledge and experience - 'trial and error'. As stated by Brand (1986), this research found how skills development occurred outside a formal education system as some ISR players using social innovation approaches, adapted knowledge from formal school systems to carry out their work.

In research, learning and development, ISR players built new relationships with players within both shadow economy and mainstream economy spaces. The ISR collective knowledge base was accessible to anyone in both informal and formal levels with no payment required. This research found how new ISR entrants could simply go to the dumpsite and ask existing ISR players how they could make a living. New social relationships were continuously developed and strengthened within this culture of open learning. Male ISR players as socially ascribed leaders of households played a leading role in research and dissemination of progressive findings on best practices.

14.1.3 Challenges ISR business models face in inclusive, social innovation

The following section looks at what challenges informal sector recycling (ISR) business models faced in inclusive, social innovation.

a) Tensions around what constitutes social good and value

Inclusive, social innovation internalises the tensions around any social change – in terms of what constitutes as social good and/or value. Literature on inclusive innovation also acknowledges that in including the previous marginalised groupings in the mainstream of development, whilst value is created for others the same might be lost for others (George et al., 2012). The below section describes how informal sector recycling (ISR) business models expressed these tensions.

This research found that for formal recycling companies it made business sense to formalise the intricate networks of ISR players. Literature also supported this view that when grouped, informal players could have greater power to influence and shape systems (Dhumba, 1999; Medina, 2008). However, this research found that ISR players enacted great influence at an informal level. Furthermore, ISR players were able to shape their systems at shadow

economy level in order to meet their basic needs. ISR players during focus group discussions explained how they did not see the real value that would come out of formalising their operations.

Furthermore the local government - Bulawayo City Council (BCC), and the regulatory authority - Environmental Management Agency (EMA), felt that ISR players would be safer from the risk of accidents if they implemented basic safety and health standards including wearing protective clothing when working. However, ISR players felt that an additional layer of clothing would be restrictive to their flexibility, agility and comfort.

The above examples illustrate how state and market have certain ideals about what constitutes social good and value which are not in line with those of ISR players. This was found to limit opportunities for cross-pollination of ideals towards scaling the ISR innovations and achieving wider social impact. As a result this research found that ISR grassroots innovations largely remained localised and rarely grew to achieve scale.

Finally, the structuralist school of thought paints ISR players as feeding the competitiveness of formal recycling industry players. However during value chain mapping, this research found that at times ISR business models took and/or destroyed value from formal recycling companies and manufacturing companies. There were stages within the informal recycling value chain where ISR players fed into the parallel value chains of other ISR players at deeper levels of informality.

b) Achieving growth and scale

Literature suggests that in societies where power is monopolised or where no independent sources of money exist social innovations do not happen easily and those that make it to implementation stage are more likely to be “strangled at birth” (Mulgan, 2006; Mulgan et al., 2007). Informal sector recycling (ISR) business models were found to face challenges in achieving growth and scale of their inclusive, social innovation solutions beyond a certain level.

This research found that ISR limitation to achieve growth and scale was sometimes prompted by formal and semi-formal players. This was revealed by an official within the environmental regulatory authority who stated that “*we try to educate the informal players, but at times its formal players who do not want them to be enlightened. These formal players benefit in different ways from the informal players’ lack of knowledge*” (personal communication, 23

January, 2017). Social exclusion was found to not only manifest from the background of ISR players, but also through a ‘ceiling’ put up by formal and semi-formal players. For example, during participatory value chain mapping exercises ISR players were found to not have direct access to a database of formal recycling companies. Therefore, ISR players relied on middlemen and representatives of recycling companies to link them to mainstream market opportunities.

c) Complacency in light of minor progress

Literature states that social systems become embedded within people’s minds as culture, values and assumptions (Nicholls et al., 2015). As such, when a particular system seems to work these values and assumptions “become entrenched as part of a society’s identity” (Nicholls et al., 2015). This research found that ISR business models were driven not by profit, but by a need for an independent survival. The strategies employed by ISR players were found to build up to contribute towards this ultimate goal. However, ISR players rarely optimised their operations and strategies in order to break through the poverty spectrum. This research found that ISR players continuously adapted the quality of their lives to match their earnings. This often meant that they lived in a perpetual rat race. As their particular manner of working in the informal recycling sector enabled them to survive day by day, they continued to reinforce this way of life and drew themselves deeper into a permanent form of informality.

This discovery explains research findings which show that seventy-five percent (75%) of ISR research participants were categorised as permanently, wholly informal players as per the categorisation provided by Ishengoma & Kappel (2006). Over years of existence, this led to the despondency seen in some ISR players – a hopeless level of existence where entrenched perceptions of individual ISR players’ identity as a people ignored by society and government became woven into an identity which fostered a self-imposed form of social exclusion.

14.1.4 Negative impacts on ISR business models from an inclusive, social innovation lens

The previous section looked into the key patterns which reflected interesting aspects of how informal sector recycling (ISR) business models harness inclusion and social innovation. However, there is acknowledgement of an inherent tension in inclusive, social innovation.

Firstly, that inclusive innovation can create new pockets of inequality and destroy value for others (George et al., 2012). Secondly, that the subjectivity employed in social innovation usually leads to tensions around what constitutes as social good (Nicholls et al., 2015). The following paragraphs pin-point how some of the patterns of inclusive, social innovation found in ISR business models can be problematic.

a) New hierarchies in social status leading to a new criteria for exclusion

Nicholls et al. (2015) acknowledges a dark side to social innovation which manifests through “socially divisive or destructive objectives” and actions. This research found that as informal sector recycling (ISR) players developed new forms of social organisation, they recreated social systems found in formal spaces including hierarchies and in so doing created new pockets of inequality and social exclusion amongst themselves.

This research found different social rankings of ISR players. These social rankings were found to be determined by the choice of business model employed, drivers of that model and the level of informality. Whereas other ISR players laboured in order to earn income to feed their children, other ISR players spent their earnings on alcohol and were therefore ranked at a lower social status than ISR players who laboured to feed their families. Divisions in social ranking were also determined by geographic location of operation. Those ISR players who were based at the dumpsite were at the lower ranking than ISR counterparts working within communities and in the central business district (CBD).

These divisive forms of social organisation pose a challenge to the development of informal sector recycling, as they at times were found to lead to a vanguard-type of operation which prevented collaboration between the different rankings of ISR players. For example, community based ISR players held negative stereotypes about their ISR counterparts working from and/or based at Ngozi Mine. However, this meant that community based ISR players’ working arrangements and production processes could not benefit from the extensive knowledge of Ngozi mine based ISR players. Hence, community based ISR players were largely not as developed as their Ngozi Mine based ISR counterparts.

b) New forms of market organisation in shadow economy spaces creating new tensions around social value and social good

Nicholls et al. (2015) and Murray et al. (2010) explained social innovation as more of an unchained movement founded on ideas about possibilities that in the right environment people can conceive and grow new forms of social organisation. This research unearthed ways in which ISR business models reconfigured boundaries between state and market while creating and destroying value for mainstream economic players.

This research found stages within the recycling value chain where ISR players fed into parallel value chains. For example, ISR players who harvested aluminium cans sold these to ISR players who smelted these cans into aluminium ingots. These ingots were then sold to ISR players who manufactured three legged pots for sale. Additionally, ISR players' resource reclamation activity at times fed into parallel industries including re-bottling industries for perfume, methylated spirit and drinking water.

In this manner, ISR business models distorted the recycling industry value chain and the value which was intended for formal players and in so-doing created new tensions around what constituted social value or good. For example, formal aluminium recycling companies lost crucial inputs to their production processes as ISR players fed these into manufacturing processes of ISR producers who made three legged pots. By feeding into parallel industries, ISR business models destroyed value for the formal producers of these products. For example, beverage companies' market share was compromised by activities in parallel industries.

c) Low entry and exit barrier nature of ISR activity - A challenge in ISR development

The low entry barrier nature of the informal recycling sector besides being a strength also posed challenges to the development of the informal sector recycling (ISR) network. Although ISR networks were governed by survival economics and principles of Ubuntu, this low entry and exit barrier at lower levels of the value chain meant that the ISR value chain was bottom heavy.

Furthermore, the fact that ISR players entered and exited the work unregulated made it difficult for local government to craft meaningful strategies to support the development of this network. According to a local government official; *"ISR players started and left this line*

of work almost every day making it hard to keep track of their activities” (personal communication, 31 January 2017). This fluid existence of ISR players had implications on efforts to develop and/or formalise the sector into mainstream economic spaces through traditional approaches that focus on the journey of the individual informal player.

d) Self-governance – A challenge in harmonising informal and formal governance perspectives

The self-governing characteristic of informal sector recycling (ISR) business models allowed ISR players to co-exist within a network. However, this characteristic had implications on efforts to graduate these players into mainstream economic spaces. In incidents where the self-governance values of ISR players were in conflict with mainstream regulations, standards, value creation and value exchange modalities, it made it difficult to harmonise these divergent views. For example, this research found how ISR business models following inclusive social innovation approaches, engaged in empathetic pricing of their commodities. As such the price of waste was not simply determined by the current market price and quality of quantity as with formal recycling players. ISR players sympathised with each other and engaged in joint negotiations between buyer and seller where the effort to collect and process the waste before sale was considered in determining the price.

e) ISR adaptive working culture as a threat to ISR competitiveness within mainstream economic spaces

Gurtoo and Williams (2009) and the structuralist school of thought, wrote how informal activities were largely designed to serve the competitiveness of large scale, formal players (Carr & Chen, 2001). This research found this assertion to be partially true for players within the informal recycling value chain. Informal sector recycling (ISR) activities were found to serve the competitiveness of large scale formal players, and that of informal recycling value chains as well as parallel industries including re-bottling of drinking water.

During trade with semi/formal players on mainstream economic spaces, rapid ethnographic observations as well as interviews revealed that ISR players had minimum bargaining power to influence the transaction. As such during value exchange, in order to meet semi/formal sector trading requirements ISR networks chose an individual to negotiate the terms of trade on behalf of the collective. However, in so-doing ISR networks lost their strategic strength

which was found to lie in their networks. Therefore, the ISR adaptive working culture was found to sometimes provide a foundation for a reduced bargaining power during transactions with mainstream economic players.

f) ISR networks and working culture a deterrent towards any radical change

Literature (Nicholls et al., 2015) stated how personal relationships in the form of social capital and mutual commitment between players within a system created restrained radical change. Although the working culture of adaptive collective independence and personal favours within the intricate network of informal sector recycling (ISR) players enabled the informal players' survival, it prevented radical social change. Through micro ethnographic observations, this research found that when ISR player's reached a comfortable level of existence or could manage to get things done they stopped pushing their inclusive, social innovation boundaries.

Besides this, this research found that although ISR networks were an extensive source of information, because these networks were organised amongst players who were socially excluded from mainstream socio-economic spaces, these networks had an information deficit. The ISR knowledge base never graduated beyond shadow economy spaces to plug into mainstream knowledge including recycling market prices and trends. As no independent sources of markets existed beyond the traditional semi/formal players and ISR players involved in parallel industries, mainstream players namely semi/formal players at times determined what information to give to ISR players and as a result prompted the continued social exclusion of ISR players.

15.0 Research limitations

The research limitations included:

- a) Focus group discussions involving women had to be condensed in order to harness gender considerations. Acknowledging their simultaneous roles as wives, mothers and homemakers the focus group discussions had to be arranged in a manner which maintained flexibility and which allowed for minimal disruption of female informal sector recycling (ISR) players' work. This was especially so because in comparison to

their male counterparts, female ISR players' productive time was shorter as they had to balance their work with their household responsibilities.

- b) The informal sector recycling (ISR) line of work was laborious and highly mobile. It was hard to get the same people for follow up focus group discussions. Therefore in remedy to this, this research undertook convenient sampling. Additionally in order to ensure representativeness of the data collected, the research target population was refined to target a specific group of ISR players dealing in particular waste types, working in particular levels of the value chain and based in specific geographic sites.
- c) Due to the nature of informal sector recycling (ISR) work focus group discussions and interviews had to be conducted outside. This affected the quality of voice recordings. However, the interviewer supported all voice recordings by taking notes. Transcriptions were therefore developed from combining voice recordings with notes. Besides this, taking notes helped the researcher to note body language responses to questions and discussions.
- d) Time spent doing non-productive work including participating in this research was viewed by research participants as posing a risk to their livelihoods.
- e) Although the research recommendations laid out a conceptual value chain alliance model to facilitate the transition of ISR networks into mainstream economic spaces, examining the practicality of this model was beyond the scope of this research.
- f) Following recommendations received from informal and formal recycling industry players, this research proposed that in the transition of ISR into mainstream economic spaces an independent facilitating entity was required to facilitate the creation and exchange of shared value between ISR and mainstream players. However, it was beyond the scope of this research to examine the legitimacy and acceptability of such a role.

PART FIVE – RESEARCH CONCLUSIONS

16.0 Research conclusions

Following a comprehensive review of informal sector recycling (ISR) perceptions on informality and formalisation, as well as an in-depth analysis and discussion on how ISR business models harness inclusion and social innovation, this conclusion section provides

progressive recommendations for consideration in supporting the graduation of ISR players into mainstream economy spaces.

16.1 Key findings and contributions of this research

The following segment highlights the key findings and contributions this research has made.

a) ISR players as ‘circumstantial social entrepreneurs’

Despite the informal sector being the mainstream economy in countries such as India (Gurtoo & Williams, 2009), literature acknowledges that the positioning of the informal sector as being polar opposite to the “ideal-type representation of the entrepreneur” has led to minimal exploration of this phenomenon towards exhaustive definitions and rationales for its existence including in the informal sector recycling (ISR) sector (Chen, 2012; Williams, 2006; Jones & Spicer, 2006; Williams & Nadin, 2012; Gurtoo and Williams, 2009).

ISR players were not recognised as economic agents capable of the level of innovation, boldness and discipline expected of traditional entrepreneurs. A major finding of this research was that ISR players were not traditional entrepreneurs whose mission was for-profit or wealth creation (Dees, 1998). Additionally, the primary motivation for ISR economic activities was not to create and sustain positive social and environmental value and impact as is the established purpose of social entrepreneurs (Nicholls et al., 2015). Although Dees (1998) positioned social entrepreneurship as an “entrepreneurial approach to social problems” and ISR business models solved social problems, this research found that ISR business models in their “organisational enactment of social innovation ideals” exhibited greater qualities than those traditionally attributed to social entrepreneurs (Nicholls et al., 2015). This research found that ISR players combined different aspects of traditional and social entrepreneurship underlined by survival goals. In so doing, this research found that ISR players created an alternate category of social entrepreneurship. Therefore this research categorised ISR players as ‘circumstantial social entrepreneurs’ - entrepreneurs put into action as survivalists who created and used economic models which do not adhere to traditional market disciplines, but rather combined aspects of traditional and social entrepreneurship governed by social and environmental principles for example Ubuntu values and survival economics.

Additionally, talk of social entrepreneurship often conjures impressions of hero-type individuals determined to address a social problem in a financially sustainable manner (Dees, 1998; Abu-Saifan, 2012). Contrary to such viewpoints, this research found that the sustainability of ISR business models lay within ISR networks and the working culture of adaptive, collective independence and survival economics expressed within these networks. ISR players did not compete against each other. Rather, realising their interconnectedness and interdependence they used survival economics to govern their self-organisation. In their pursuit for survival, ISR entrepreneurial activity was characterised by a form of co-existence which harnessed ethos of shared value creation and ‘Ubuntu’ – ‘I am because you are’ - at an extent which rivalled even the most progressive sustainability oriented private sector organisation.

Furthermore, literature presents social entrepreneurs as those saving or serving the less privileged (Abu-Saifan, 2012). This research found that ISR players not only served the less privileged by sustaining the continued survival of other ISR players and powering the competitiveness of ISR value chains within shadow economy spaces, but the value they created also fed the competitiveness of privileged mainstream semi/formal recycling buyers. Moreover, ISR players constituted members of less privileged populations, the exact marginalised populations who according to Foster and Heeks (2013) need to be included in the mainstream of development. Instead of simply waiting to be included in the mainstream of development ISR players drove change and shaped their own development albeit at shadow economy spaces. As such, this research found that ISR players, as circumstantial social entrepreneurs, were a manifestation of level four, sub-step E (see figure 6) in the ladder of inclusive innovation which Heeks et al. (2013) state that there are few real-life examples. Therefore in line with the ladder of inclusive innovation (Heeks et al., 2013), this research found that ISR players were inventors of alternate ways of working in the economy which pushed boundaries of social entrepreneurship and embraced life experiences beyond traditional market and political activities.

b) ISR value chain – an undocumented part of the formal recycling value chain

Another key finding made by this research which is in line with findings by Ishengoma and Kappel (2006) was that although the informal sector recycling (ISR) player value chain had differences from its formal counterpart, it did not make up a parallel value chain. Rather, the

ISR value chain was partially integrated with the formal value chain. This research found different ways in which these two parts interacted.

The ISR value chain comprised the undocumented (informal) part of the value chain while the formal part of the value chain was characterised by more documented (formal) activities. Additionally, the ISR value chain served the competitiveness of semi/formal recycling value chains. In turn, semi/formal recycling players powered ISR value chains by providing a market for them. Furthermore, during trade both formal and informal players adapted to each other and formed an ecosystem.

Expanding on the relationship between ‘informal’ and ‘formal’ and how these two were found to transact, this research found mis-matches and fundamental differences in how ISR players and semi/formal recycling players measured, perceived, created and exchanged value within and across shadow and mainstream economic spaces. One such difference was that the semi/formal recycling value chain operated based on market principles where wealth creation and profit was the measure of value (Dees, 1998). On the other hand, the ISR value chain operated on principles beyond traditional social entrepreneurial approaches as elaborated by Abu-Saifan (2015). Within the ISR value chain, the measurement of value followed a blended humanistic approach which crossed boundaries of informal and formal measurement approaches. Value was not simply determined by the quantity of quality as per prevailing market prices, but the effort involved and the mission of the ISR supplier were considerations made to ascertain the social value attributable.

Additionally, activities within formal parts of the value chain had to comply with safety, health environmental and various standards. This research found that some of the methods used by ISR players to create value in informal parts of the value chain were considered as unethical, environmentally degrading and in violation of various mainstream economy best practice standards. However, ISR players revealed that working in this manner was what maintained their competitiveness as they did not have to comply with costly production standards.

c) Formal sector can learn from the informal sector

Middle-aged, male ISR player: *“For us poverty is when people look at our state and decide that we have nothing to contribute. To us, this is the real poverty.”*

This research established that the informal sector recycling (ISR) network was a formidable economic entity made up of collective independent circumstantial social entrepreneurs who were driven into their line of work out of a desperate need to secure an independent survival. Formal recycling company representatives (personal communication, 5 January 2017; 17 November 2017) acknowledged the ISR network's power as the base upon which the recycling industry stood and also as a bottomless, live source of knowledge in an industry which was a black hole for policy makers due to a lack of statistics and knowledge to inform evidence-based advocacy (personal communication, 10 January, 2017). However, the ISR knowledge base was unrecognised as a potential organ through which baseline knowledge and statistics could be established on the local recycling industry activity as well as on progressive practices and low cost techniques to recycling.

Additionally, this research found interesting ways in which ISR business models harnessed inclusion and social innovation - ways which the formal sector is increasingly trying to harness and could learn from the ISR as a comparative example. ISR players recognised that their social experience was much more than their market economy and political activities. As a result, ISR business models employed a humanistic approach to conducting business which blended informal and formal, traditional and progressive approaches to creating, measuring and exchanging the value created by their economic activities. ISR business models within networks were governed by 'Ubuntu' principles and survival economics whereby the creation of shared value principles of inclusive business laid the foundation for ISR networks trade and work arrangements.

As these are values which the formal sector is increasingly trying to adopt, this suggests that the informal recycling sector on top of its wealth of knowledge and experience, has real value to contribute to mainstream economic spaces and towards strategies to facilitate their transition from shadow to mainstream economic spaces. This is not an entirely new recommendation, but an extension of what is already taking place across informal and formal parts of the recycling value chain. For example currently during trade across shadow and mainstream economic spaces, this research found that not only did ISR players adapt to formal recycling players' trade preferences, but a formal recycling player confirmed that at times in order to tap into the network of ISR players and do business one had to relate to the ISR player collective identity and empathise with their experiences (personal communication, 5 January, 2017). In such scenarios this research found that the formal recycling sector

adapted to the informal business culture and together, formal and informal formed an ecosystem.

In terms of moving informal to formal, this points to a need for alternative approaches. As recommended above, these include approaches where the graduation of informal sector into mainstream economic spaces does not simply mean that ISR players have to desert their way of doing business. This research found how through inclusive, social innovation approaches, both formal and informal sector players could learn from each other in order to improve their competitiveness within mainstream economic spaces.

d) Generational informality

This research discovered a phenomenon of generational informality which posed implications to informal sector recycling (ISR) development and approaches to transition ISR players into mainstream economic spaces. Forty-nine percent (49%) of the ISR participants in this research had no birth certificates and/or national identity documents. Some of these ISR players in turn had children who had no birth certificates. Through focus group discussions, this research found that this continued cycle of Zimbabwean citizens born without record had resulted in two-to-three generations of marginalised populations who could not access mainstream socio-economic services including education opportunities or exercise their democratic rights during electoral proceedings. This phenomenon explained the motivation to entry of some ISR players who entered this line of work as it had no educational and personal registration requirements.

These ISR players were excluded from even the most progressive inclusive socio-economic services and products being developed and/or offered by the formal sector. Whereas mainstream social, economic and political participation required basic personal registration (birth certificate and/or national identity document), this phenomenon pushed ISR players into deeper and more permanent levels of informal existence as they could not access alternative livelihood options within mainstream economic spaces. Instead of waiting to be saved and out of a desire to live an independent life, these ISR players self-organised with other individuals sharing similar experiences of socio-economic exclusion. These ISR players exhibited entrepreneurial behaviours beyond traditional social entrepreneurship disciplines and exercised their agency within shadow economy spaces to undertake an income generation opportunity which was within their collective resource capabilities albeit at shadow economy

levels. For instance since ISR players who did not have birth certificates or national IDs could not register a personal phone sim card, they used the mobile payment platforms of their counterparts during value exchange with mainstream economic players under the on-going cash crisis.

However, these forms of social organisation posed challenges to the development of traditional formalisation strategies where the focus is on the formalisation of individual ISR players. For example, the use of one personal mobile payment platform by a group of ISR players flawed mobile payment platform and mobile network registration statistics.

16.2 Recommendations following key research findings

Following a review of the key contributions of this research, the following section outlines the recommendations which inform the key aspects of the proposed model.

Informality in Zimbabwe is largely associated with the legal status of enterprises, as a result formalisation strategies are focused on legal registration, standards and tax compliance of individual entities (Mashiri, 2014). The recent national cash crisis which has led to a growth in parallel informal financial markets had contributed to an expansion of the focus of formalisation efforts to include strategies to harmonise parallel and formal market sectors as well as financial systems. However, the International Labour Office defined formalisation beyond a one step process and into a journey which an enterprise takes from being informal to formal (“Government crusades to formalise SMEs”, 2016). The World Bank (1999) provided an alternative ideology to formalisation, where informality is approached as an incubator which nurtures entrepreneurship amongst the resource poor and births a “seedbed of experienced entrepreneurs” to start and develop informal micro-enterprises into large scale industrious entities. Grosh and Somolekae (1996) proposed that this was possible through implementing incubation programmes to facilitate the graduation from informal micro-enterprise to large scale entity.

In terms of moving informal to formal, emerging themes from the findings of this research raise the need for alternative approaches to existing formalisation strategies outlined above. Such approaches proposed by this research are a progression of value chain development oriented recommendations offered by Ishengoma and Kappel (2006). However, whereas the aforementioned formalisation strategies approach formalisation as a journey individual

economic entities go through in transition from informal to formal, this research recommends that informal sector recycling (ISR) players could still trade beyond shadow economy spaces through developments within value chain linkages targeting ISR networks and not individual ISR players. In line with this thinking, the following segment proposes key considerations and a model to facilitate the development of informal sector recycling (ISR) beyond shadow economy spaces.

16.2.1 Key recommendations and considerations in the transition from informal to formal

In response to the main research question – how can inclusion and social innovation be harnessed during the transition from informal to formal, the following section outlines key recommendations towards this which in turn informed key aspects of the proposed model which is elaborated in later sections of this document.

a) Formal and informal should learn from each other

In the transition from shadow to mainstream economy spaces, both formal and informal should learn from each other in order to improve both their competitiveness. The graduation of informal sector recycling (ISR) from shadow to mainstream economic spaces should not mean that ISR players, as circumstantial social entrepreneurs, within networks must abandon their way of doing business. This research proposes that in the transition from informal to formal, there is great opportunity for both ISR networks and formal sector to learn from each other.

This research found progressive ways in which ISR networks harnessed inclusion and social innovation which rivalled even the most advanced sustainability oriented formal entity. Additionally, in times when formal sector is increasingly trying to incorporate sustainability aspects including inclusive business, shared value creation, and higher ethical value systems, formal sector can learn from ISR business models which organically encompass each of these qualities. Whereas this research found that semi/formal recycling entities worked independently as industry competitors, these formal players could extract from lessons from the ethos expressed through the ISR network. For example, learning from the ISR working culture of adaptive collective independence, the formal recycling sector players could see each other as interconnected industrial counterparts. This approach could propel the formal

recycling sector players to explore ways to coexist instead of engaging in competitive practices which do not further the industry's sustainable development.

The opportunity for cross-learning and authentic engagement recommended by this research transcends private sector players and extends to government and the community. The ISR network is acknowledged as a bottomless pit of knowledge within an industry that is a black hole for policy makers. The opportunity exists for the government to find ways to tap into the ISR network knowledge base in order to inform the development of social, environmental and economic sustainability strategies to improve solid waste management, disposal and recycling systems and attain sustainable city goals. For example, in Brazil not only is waste picking a recognised profession waste pickers organised in cooperatives or 'catadores' advise government on solid waste management and recycling aspects (Medina, 2008; Fergutz et al., 2011; Gunsilius, 2010). This research found that similar arrangements could be piloted during the transition of informal to mainstream economy spaces. ISR networks could engage in developmental cooperation with local government, the Bulawayo City Council, to initiate separation at source resource reclamation programmes.

b) Transition should be of 'ISR networks' and not 'ISR individual players'

This research recommends that traditional formalisation approaches which follow a rigid process would be retrogressive in developing informal sector recycling (ISR) networks (Chen, 2012). Although ISR players during focus group discussions and interviews expressed knowledge of more gainful opportunities within mainstream economy spaces, a majority of ISR players were not willing to desert their way of life and business in order to conform to mainstream economy working culture, standards and other regulation.

This research identified elements of ISR business models that are crucial to their sustainability and resourcefulness which would be lost during traditional formalisation approaches which focus on the formalisation journey of individual informal players. For example, the very nature and strength of ISR networks lay in their adaptive, collective independent working culture which allowed them to work independently, but to also aggregate into short-term oriented groupings to solve problems, take up opportunities, acquire resources and knowledge in order to improve their work. This strength would be lost if formalisation focused on individual ISR players. This research found that the aims of formalisation are still attainable through ISR networks, but through different approaches.

This research found that ISR players saw opportunities for a ‘natural’ formalisation approach which focuses on strengthening value chain linkages between ISR networks and mainstream socio-economic players. Following inclusive, social innovation disciplines, this research proposes that these value chain linkages be strengthened by alliances between the ISR networks and mainstream players. Following inclusive, social innovation approaches, these alliances should not only focus on linking players across the value chain, but also on creating new relationships or alliances between traditional and new players including the community of waste generators as partners as well as other actors within social and economic spaces.

Within these value chain linkages and alliances, ISR players working in networks should be able to exercise their autonomy in decision making. ISR players’ participation should be optional and not coerced. Furthermore, ISR players within networks should remain autonomous in how they choose to participate, whether as individuals or in groups, and permanently or temporarily. This research therefore recommends that the transition of ISR networks should not lead to the eradication of ISR players who will choose to remain independent. Social innovation literature implies that once ISR players see greater value to be part of this value chain development process, there is a considerable chance that they will make the decision to participate (Nicholls et al., 2015).

c) Authentic interactions and inclusive development as pre-requisites to formalisation

Informal sector recycling (ISR) players indicated that they did not want “*to be known if there was no benefit.*” However, from the ISR perspective as elaborated by a male ISR player during a focus group discussion, poverty was when their capacity to contribute to their own development was unrecognised and decisions affecting them were made and imposed upon them without their contribution. This revealed that not only did ISR players want to contribute to processes to shape their development, but through authentic interactions with mainstream economy players they wanted to be involved in processes to shape the outcomes and benefits of this development.

This research found how ISR players, as ‘circumstantial social entrepreneurs’, were driven into their line of work as survivalists. However, their business models were an expression of much more than mere survivalist aims and harnessed humanistic approaches during value exchange in order to address the ‘value capture’ problem explained in earlier parts of this conclusion section. Therefore, the benefits of formalisation should harness similar qualities

beyond traditional economic incentives. In order to gain acceptability within ISR networks, these benefits must therefore be established through inclusive approaches involving ISR players.

This establishes the need for alternative approaches to traditional informal sector formalisation strategies which follow a rigid process, are developed by mainstream economic players and imposed upon informal players. This research proposes a value chain development approach centred on developing alliances. Here the voice of the ISR network should be represented as an equal partner in shaping and implementing development strategies. As such, public, private, community and informal sector partnerships (PPCIPs) are proposed.

Following recommendations by both ISR players and formal players during data collection parts of this research, this research recommends the establishment of an autonomous facilitator of these PPCIPs. Having observed how ISR network's bargaining power to influence terms of trade on mainstream economy spaces is reduced, the role of the facilitator within these PPCIPs will be to aid the establishment of developmental cooperation between ISR players within networks while opening opportunities for shared value creation between ISR players, formal recycling entities, commercial and domestic waste generators. The role of this autonomous facilitator follows recommendations captured by this research from the informal and formal industry players.

16.3 The proposed value chain alliance model

This section contains the research recommendations. The section starts off by demonstrating how key research findings and contributions have informed the development of the proposed value chain alliance model. The section concludes by illustrating the proposed model. As such, the following table (table 2) summarises how key contributions from this research have informed the key aspects of the proposed value chain alliance model. Besides the noted key contributions, the proposed value chain alliance model encapsulates explorative findings and considerations contained throughout this document.

Table 6: Table showing key aspects of the proposed model and how they relate to key research contributions

Research contribution	Key aspects of the model
<ul style="list-style-type: none"> • Inclusive development as a pre-requisite to a ‘natural’ formalisation through value chain development. • ISR value chain is not a parallel value chain, but formal and informal are already linked through transactions. • Transition should be of ISR networks and not ISR individual players. • Formal sector can learn from the informal sector. ISR definition of poverty: <i>“For us poverty is when people look at our state and decide that we have nothing to contribute. To us, this is the real poverty.”</i> <p>As the informal sector recycling (ISR) value chain was found to not be a parallel value chain to the formal value chain, the transition from shadow to mainstream economy should follow a ‘natural’ formalisation through a value chain linkage development approach targeting ISR networks and not individual ISR players.</p> <p>ISR players were noted as a bottomless pool of knowledge in a sector which is a ‘black hole’ for policy makers. In the transition from shadow to mainstream spaces, the proposed model opens opportunities for both mainstream and informal players to learn from each other. In this ISR players could work with local government (Bulawayo City Council) and policy makers to develop a body of knowledge to inform progressive policy targeting the recycling industry.</p>	<p>Value chain development targeting ISR networks</p>
<ul style="list-style-type: none"> • Authentic interactions and inclusive development as a foundation for value chain development through an alliance approach. • ISR players as ‘circumstantial social entrepreneurs’. • Generational informality. <p>Towards commercially viable and sustainable value chains within the recycling industry, the value chain alliance model illustrates the recommended interrelation and co-existence of the various value chain players. Following social innovation literature, the alliance model fosters new relationships between ISR networks and mainstream economic players who are inactive in the current, traditional value chain (Nicholls et al., 2015). For example, through</p>	<p>Value chain alliances</p> <p>Alliance actors – Public, Private, Community and Informal sector Partnerships (PPCIPs)</p>

<p>the alliance model, ISR players will have access to source separated recyclable waste streams from partnering community groups. In addition, the alliance model creates opportunities for inclusive development - facilitated developmental cooperation between local government, policy makers and ISR networks. As a result, the value chain development model follows an ‘alliance’ model through public, private, community and informal sector partnerships (PPCIPs). The proposed PPCIPs have been recommended in a manner that positions ISR networks as equal partners and contributors/co-creators of development instead of as helpless recipients of the benefits of development.</p> <p>Additionally, as ISR players combined elements of traditional entrepreneurship with a more progressive category of social entrepreneurship, non-traditional benefits of value chain development should embody these characteristics. For example, through the proposed alliances with actors across private, community and development sectors, the proposed model encourages the focus of development to include efforts to address some social problems faced by ISR players including the lack of personal registration (birth certificates and/or national identity documentation). These benefits must be established through inclusive approaches involving ISR players.</p>	
<ul style="list-style-type: none"> • Chen (2012) stressed that a new economic prototype is needed which provides “<i>a model of a hybrid economy that embraces the traditional and the modern, the small scale and the big scale, the informal and the formal.</i>” • The success of social innovations may also lead to or depend upon the development and implementation of associate or intermediary innovations (Mulgan et al., 2007). Additionally, connectors play a key role in any innovation system by linking ideas, people, money and power. <p>Following progressive recommendations by Chen (2012) and considering key findings of this research, the value chain alliance model proposes that even as the traditional merges with the modern and the informal transacts with the formal within the proposed value chain development approach, a facilitator is required to act as a ‘bridge’ between the different parts as they acclimatize to each other.</p> <p>Authentic interactions made up the core of ISR business models</p>	<p>Facilitator or ‘bridge’ between informal and formal</p>

where players sought to genuinely create shared value amongst themselves and other players within mainstream economic players. The scope of these authentic interactions went beyond market economy activities and recognised the whole-human. In terms of facilitating authentic interactions, valuing people and their knowledge as well as being more humanistic, the proposed alliance model will seek to embody this through a facilitator of the PPCIPs.

Having observed how ISR network's bargaining power to influence terms of trade on mainstream economy spaces was reduced, the role of the facilitator within these PPCIPs will be to aid the establishment of developmental cooperation between ISR players within networks while opening opportunities for shared value creation between ISR players and mainstream players. The legitimacy and role of this autonomous facilitator is established through recommendations from the informal and formal industry players which have pointed out the need for this role. Furthermore, through mobilising the relevant PPCIPs, the facilitator will help to address the value capture problem by facilitating access to non-traditional benefits of value chain development including championing social development (e.g. national ID registration, access to health care amongst others).

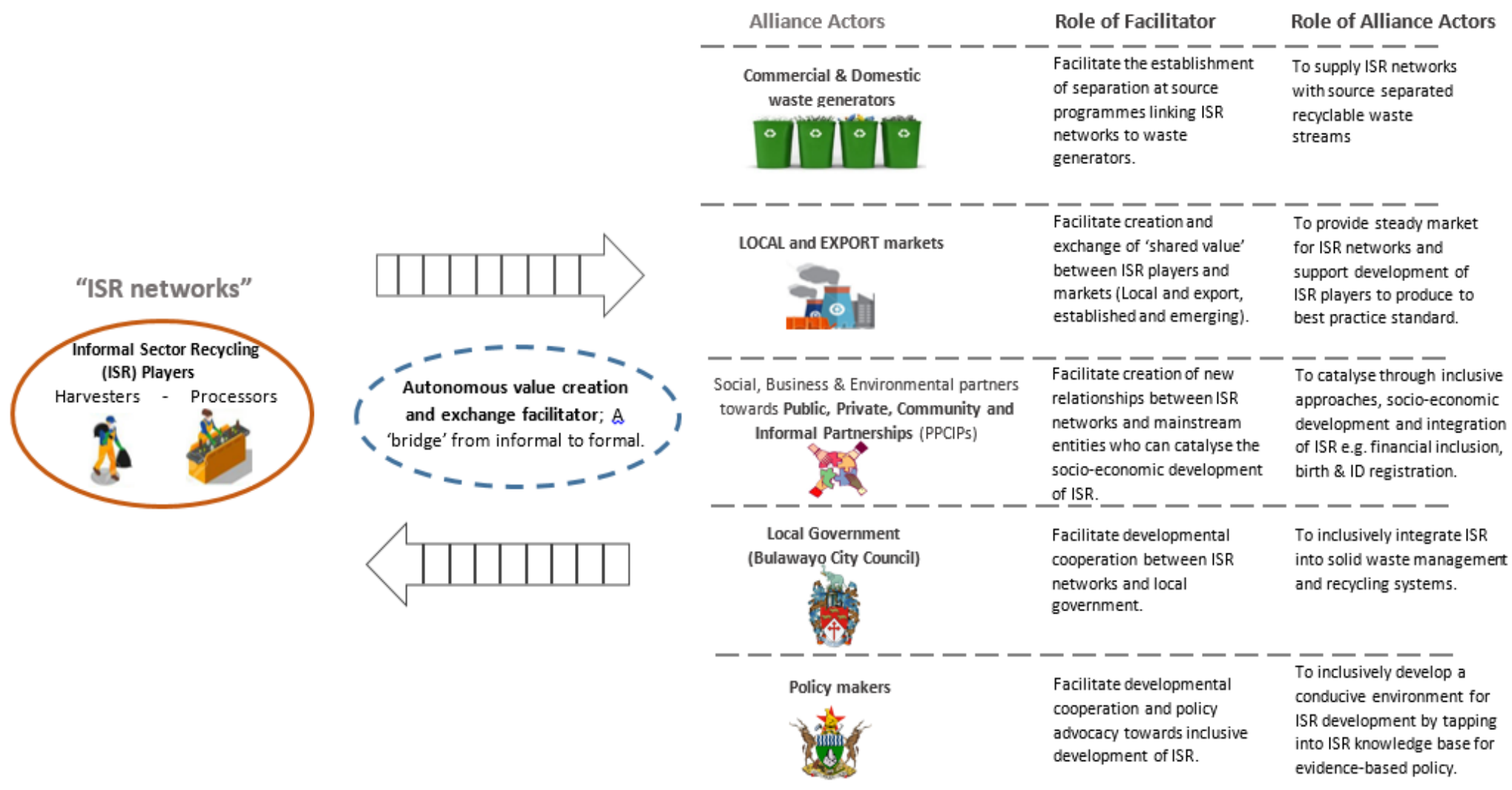
In order to cement the legitimacy of the autonomous facilitator, this research recommends that the establishment of this facilitator role be preceded by authentic interactions and cooperation between shadow and mainstream economy players through a non-government developmental programme. The purpose of the programme will be to pilot this facilitative role and using the outputs and outcomes of its implementation, to inform the set-up, structure and function of a more permanent facilitator.

The resultant model is a construct which follows recommendations received from both informal and formal value chain players including outputs from the critical analysis of the research findings. The resultant 'value chain alliance model' which is proposed is adapted from the 'value chain alliance business model' developed under Zimbabwe's 2016 Horticulture and Associated Crops Sector strategy (International Trade Centre, 2016). Following recommendations stemming from this research the original model is adapted to factor in inclusive, social innovation considerations which this research found to be fundamental to successful transition of the informal recycling sector into mainstream spaces.

The ultimate value chain alliance model recommended by this research encapsulates progressive recommendations by Chen (2012) of an alternative economic prototype which follows a blended approach in embracing the small scale and large scale, the formal and informal, the traditional and modern.

This research proposes that in the value chain development approach centred on developing alliances, the voice of the ISR network be represented as an equal partner in shaping and implementing development strategies. As such, public, private, community and informal sector partnerships (PPCIPs) are proposed. The following diagram (figure 11) illustrates the proposed value chain alliance model.

Figure 11 - Proposed Value Chain Alliance Model harnessing inclusive, social innovation to facilitate transition of ISR networks into mainstream socio-economic spaces whilst fostering authentic interactions as a pre-requisite to inclusive development.



PART SIX – FURTHER RESEARCH DIRECTIONS

17.0 Future research directions

The following section outlines future research directions. The proposed future research directions are a combination of recommendations to examine a proposed model for the first time and to build upon key findings of this research.

As examining the practicality of the value chain alliance model was beyond the focus of this research, for future research directions this research proposes that the value chain alliance model proposed by this research be examined in order to determine its practicality in facilitating the transition of informal sector recycling (ISR) networks into mainstream economic spaces. Being a construct that is informed by lived experiences of informal and formal players within Bulawayo's recycling industry, it is recommended that the model be examined within the same context using a qualitative, action research approach.

Additionally, this research suggests further research to expand variables within the proposed value chain development approach to the transition of ISR into mainstream economic spaces. This would be to particularly examine the legitimacy of the role of the autonomous facilitator. Findings of this research revealed that both informal and formal players felt that in the transition of ISR into mainstream economy spaces a 'bridge' was needed to facilitate shared value creation and exchange between ISR and mainstream players. However, it was beyond the scope of this research to undertake these examinations. Therefore this research proposes that a qualitative ethnographic research be undertaken to assess the legitimacy of this recommended role.

Furthermore, this research made interesting findings about how ISR business models harnessed inclusion and social innovation. Of particular interest for future area of study are further cross-examinations of the concept of ISR players as 'circumstantial social entrepreneurs'. This research proposed a definition of this category of social entrepreneurs as entrepreneurs put into action as survivalists who create and use economic models which do not adhere to traditional market disciplines, but combine aspects of traditional and social entrepreneurship governed by social and environmental principles for example Ubuntu values and survival economics. Further cross-examinations of this term are of particular importance in order to establish whether the term is transferrable to explain entrepreneurial activity of other groupings of ISR players in other geographic areas. Towards this, a comparative

research is proposed which compares findings of this research to ISR activity in other parts of Zimbabwe.

Finally, following findings of this research regarding a phenomenon of ‘generational informality’ within informal activity, further research directions could include investigations on how political, market and public service failures limit citizen participation in mainstream economy spaces, give rise to and shape variations of the informal economy. This is critical in order to expand the understanding of informal sector players to include a characterisation of informal social entrepreneurs beyond traditional, ideal type definitions of entrepreneurs.

18.0 Appendices

Appendix 1: Sample interview protocol and questions.



INFORMAL SECTOR RECYCLING PLAYER KEY INFORMANT INTERVIEWS **Interview Protocol Research Instrument (EXAMPLE)**

PART 1

INSTRUCTIONS

Good morning (afternoon). My name is _____. Thank you for your time. You are being asked to participate in a research study as part of my scholarly studies. The purpose of the study is to explore and appreciate how informal sector recycling players in Bulawayo operate and the challenges they face in their work. This is to inform recommendations on how to support the development of informal sector recycling. You were selected as a possible participant in this study as a key stakeholder in Bulawayo's waste collection and recycling system.

TAPE RECORDER AND VIDEO INSTRUCTIONS

If you do not mind, I will record our discussion my voice recording or video. I am doing this so that I can take note of all the information you provide me with while being able to carry out an attentive discussion with you. The responses you share will only be used for scholarly purposes and will be kept confidential. I will use information I get from you to compile a report on my findings, however the report will not contain personal information you provided which can identify you.

CONSENT FORM INSTRUCTIONS

Before we begin, I would like to take you through the consent form for you to sign if you agree to participate in this research.

If interviewee agrees to participate turn on voice recording / video depending on consent provided.

The interview can begin once the interviewer has taken the interviewee through the consent form and the form signed by the interviewee.

INFORMATION

Interviewer name and surname: _____
Interviewer preferred name: _____

Other topics discussed: _____
Documents obtained: _____
Post interview comments or leads: _____

1. Please tell me a little about your background.
 - a. What is your education background?
 - b. What was your former line of work?
 - c. What led you to this line of work?
2. So tell me about your line of work?
 - a. How would you describe what you do for a living?
 - b. Why did you enter this particular line of work?
 - c. How long have you been doing this work?
3. Tell me about your experiences when you were starting off.
 - a. How did you start?
 - b. How did you find out about this line of work?
 - c. What support did you receive and from who?
 - d. I noticed that this work requires a lot of innovativeness and resourcefulness. How did you learn how to do this work?
4. How do you view the work that you do?
 - a. What motivates you regarding your line of work?
 - b. How does your family view your work?
5. Tell me how you would go about a typical work day?
 - a. Describe the processes you go through to carry out your work?
 - i. How do you produce, sell and get paid?
 - ii. How much do you make on average?
 - iii. Probe: If there are any grassroots innovations in how they do their work, ask how they developed these innovations?
 - b. What challenges do you face?
 - c. How do you solve these challenges?
 - d. Who do you work with?
 - i. How do you work with other informal sector recycling players?
 - e. How do you work with formal and semi-formal players?
 - f. What challenges do you face in working with these?
6. Tell me about your dreams and aspirations for the future. What opportunities do you see for yourself under this line of work?
 - a. Do you see yourself growing in this work?

- b. If yes, how do you see this growth occurring?
 - c. If not, why?
7. The government is implementing strategies to support the development of the informal sector and to make sure it contributes to the economy. One such strategy has been through the national formalization strategy. What are your views about formalizing your operations?
- a. What does formalization mean to you?
 - b. What does your informality mean to you?
 - c. In your view, what is need in order to develop informal sector recycling?

THANK YOU FOR YOUR TIME.

Appendix 2: Sample consent form.



No. _____

INFORMED CONSENT FORM

How Can We Harness Inclusion and Social Innovation as the Informal Sector transitions into mainstream Economic Systems? – A Case Study of Waste Collection and Recycling Systems in Bulawayo, Zimbabwe

Principal Investigator: Ms. Sinqobile S. Ndlovu
 Student number: NDLSIN017
 Phone number(s): +263775182522
 Email address: ndlsin017@gsb.uct.ac.za
 Institution: University of Cape Town, South Africa – Faculty of Commerce
 Programme: Master of Philosophy in Inclusive Innovation

What you should know about this research study:

- We give you this consent so that you may read about the purpose, risks, and benefits of this research study.
- You have the right to refuse to take part, or agree to take part in this research now and can change your mind later.
- Please review this consent form carefully. Ask any questions before you make a decision.
- Your participation is voluntary. A fee will not be paid for your contribution.

PURPOSE

You are being asked to participate in a research study of *‘How can we harness inclusion and social innovation as the informal sector transitions into mainstream economic systems?’* The purpose of the study is *to explore and appreciate how informal sector recycling players in Bulawayo operate and the challenges they face in their work. This is to inform recommendations on how to support the development of informal sector recycling.* You were selected as a possible participant in this study *as a key stakeholder in Bulawayo’s waste collection and recycling system.* An anticipated *60 stakeholders* are expected to take part in this research in *Bulawayo, Zimbabwe.*

PROCEDURES AND DURATION

If you decide to participate, you will undergo a face-to-face interview which is expected to take not more than 40minutes.

Following this, you will be invited to participate in a focus group discussion with other players in the waste collection and recycling industry which is expected to take 1hour 30minutes.

Finally you may be contacted to provide additional information from key parts of your interview.

Audio, Video Recording and Photography

This study will involve audio, video and photography. The purpose of this is to document the responses received towards a detailed analysis of information collected. Parts of the video, audio footage and pictures might be used as part of a final video documenting the experiences of the informal sector in waste collection and recycling systems in Bulawayo, Zimbabwe. You will be contacted to be shown the final video footage.

Statement of Consent to be photographed, Audio taped or Videotaped.

I understand that photographs / audio recordings / video recordings will be taken during the study. *(For each statement, please choose YES or NO by inserting your initials in the relevant box)*

- I agree to having my **photograph taken**

Yes

☐

No

☐

- I agree to **being audio recorded**

Yes

☐

No

☐

- I agree to having my **video recorded**

Yes

☐

No

☐

[delete the options that are not appropriate for this study]

Name of Participant (please print)

Signature

Date

RISKS AND DISCOMFORTS

No foreseeable risks, discomforts or inconveniences are anticipated from your participation in this research.

BENEFITS AND/OR COMPENSATION

No allowances, benefits or compensation will be paid to any participant of this research.

CONFIDENTIALITY

If you indicate your willingness to participate in this study by signing this document, *the information collected during this research will be submitted to the University of Cape Town in South Africa as part of a dissertation. Various presentations and articles may also be written and published to communicate the findings of this research. The purpose of this wide dissemination is to raise awareness on how the informal recycling can be developed in order to contribute towards the economic diversification of Zimbabwe.* Any information that is obtained in connection with this study that can be identified with you will remain confidential.

VOLUNTARY PARTICIPATION

Participation in this study is voluntary. If you decide to participate, you are free to withdraw your consent and to discontinue participation at any time without

penalty.

SIGNATURE PAGE

How Can We Harness Inclusion and Social Innovation as the Informal Sector transitions into mainstream Economic Systems? – A Case Study of Waste Collection and Recycling Systems in Bulawayo, Zimbabwe

OFFER TO ANSWER QUESTIONS

Before you sign this form, please ask any questions on any aspect of this study that is unclear to you. You may take as much time as necessary to think it over.

AUTHORIZATION

You are making a decision whether or not to participate in this study. Your signature indicates that you have read and understood the information provided above, have had all your questions answered, and have decided to participate.

Name of Research Participant (please print)

Signature

Date

Name of Interviewee Obtaining Consent

Signature

Date

YOU WILL BE OFFERED A COPY OF THIS CONSENT FORM TO KEEP

Appendix 3: *List of interviews and focus group discussions.*

Interview Category	Stakeholder Description	Number of Participants	Gender Distribution	Volume of Data Collected	Date	Place
Key informant interviews (mainstream economy stakeholders)	Formal recycling company official (a)	2	2 Male	Transcript - 1,616 words Voice recording – 1hr:05mins:14secs	Thursday, 17 November 2016	Bulawayo
	Formal recycling company official (b)	1	Male	Transcript – 2,532 words Voice recording – 0hr:40mins:11secs	Thursday, 05 January 2017	Harare
	Formal recycling company official (c)	1	Male	Transcript – 1,590 words Voice recording – 0hr:38mins:52secs	Thursday, 05 January 2017	Harare
	Government ministry official (a)	2	Male	Transcript – 349 words	Tuesday, 10 January 2017	Harare
	Government ministry official (b)	1	Male	Transcript – 1,238 words Voice recording – 0hr:24mins:01secs	Tuesday, 10 January 2017	Harare
	Regulatory authority official	1	Male	Transcript – 1,254 words Voice recording – 0hr:25mins:49secs	Monday, 23 January 2017	Bulawayo
Focus group discussions (Informal sector recycling players)	Preliminary Focus Group 1 (Ngozi mine based ISR players)	7	6 male, 1 female	Transcript – 1,195 words Voice recording – 0hr:21mins:10secs	Thursday, 02 February 2017	Bulawayo
	Preliminary Focus Group 2 (Community based ISR players)	5	5 female	Transcript – 318 words Voice recording – 0hr:29mins:18secs	Thursday, 02 February 2017	Bulawayo

	Focus group 3 (Ngozi mine based ISR players)	18	13 male, 5 female	Transcript – 2,984 words Voice recording – 1hr:19mins:13secs	Saturday, 04 February 2017	Bulawayo
	Focus group 4 (Ngozi mine based ISR players)	13	9 male, 3 female	Transcript – 3,068 words Voice recording – 1hr:29mins:05secs	Saturday, 04 February 2017	Bulawayo
	Focus group 5 (Ngozi mine based ISR players)	15	11 male, 4 female	Transcript – 2,960 words Voice recording – 1hr:04mins:13secs	Saturday, 04 February 2017	Bulawayo
	Focus Group 6 (Community based ISR players)	8	8 male	Transcript – 516 words Voice recording – 0hr:34mins:29secs	Saturday, 11 February 2017	Bulawayo
	Focus group 7 (Ngozi mine based ISR players)	21	14 male, 8 female	Transcript – 892 words Voice recording – 0hr:49mins:17secs	Saturday, 11 February 2017	Bulawayo
	Follow up focus group 8 (Community based ISR players)	9	9 female	Transcript – 1,497 words Voice recording – 0hr:57mins:11secs	Wednesday, 22 March 2017	Bulawayo
	Follow up focus group 9 (Ngozi mine based ISR players)	11	6 male, 5 female	Transcript – 2,586 words Voice recording – 1hr:01mins:49secs	Friday, 24 March 2017	Bulawayo
Key informant interviews (Informal sector recycling players)	Informal sector recycling player 1 (Ngozi mine based)	1	Male	Transcript – 1,266 words Voice recording – 0hr:40mins:48secs	Saturday, 25 March 2017	Bulawayo
	Informal sector recycling player 2 (Ngozi mine based)	1	Male	Transcript – 1,066 words	Saturday, 25 March 2017	Bulawayo

	based)					
	Informal sector recycling player 3 (Community based)	1	Female	Transcript – 1,155 words	Saturday, 25 March 2017	Bulawayo
	Informal sector recycling player 4 (Ngozi mine based)	1	Male	Transcript – 1,097 words Voice recording – 0hr:44mins:15secs	Saturday, 25 March 2017	Bulawayo
	Informal sector recycling player 5 (Ngozi mine based)	1	Male	Transcript – 1,058 words Voice recording – 0hr:42mins:07secs	Saturday, 25 March 2017	Bulawayo
	Informal sector recycling player 6 (Ngozi mine based)	1	Female	Transcript – 1,024 words Voice recording – 0hr:27mins:20secs	Saturday, 25 March 2017	Bulawayo
	Informal sector recycling player 7 (Community based)	1	Female	Transcript – 799 words Voice recording – 0hr:15mins:30secs	Saturday, 25 March 2017	Bulawayo
TOTAL VOLUME OF DATA COLLECTED				32,060 words and 14hours 06minutes 42seconds voice recordings		

19.0 References

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